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Emotional Intelligence and Professional Quality of Life of Healthcare Staff

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PROFESSIONAL QUALITY OF LIFE OF HEALTHCARE STAFF

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Introductory Chapter: Thesis Overview

It is recognised that those in caring professions may experience a number of negative personal consequences as a result of the nature of their work which can be visualised in a number of ways (Maslach, 2003). The risks that healthcare professionals may face can be identified as experiences of burnout which are understood as occurring as a result of chronic strain from limited resources, increasing work demands or discrepancy between individual's values and the type of work they are able to carry out (Lawson & Myers, 2011). Similarly, compassion fatigue is recognised as the result of witnessing the suffering of others and can impact health professional's ability to be present with their clients, feelings of powerlessness, isolation and confusion and is often characterised by emotional and physical exhaustion and high levels of stress (Figley, 1995). Conversely, the positive outcome from working with challenging individuals is described as compassion satisfaction and reflects the rewards of caring for others (Cetrano et al., 2017). Given the many negative consequences of burnout and compassion fatigue on staff well-being, patient outcomes and financial pressures on organisations, the importance of understanding those factors that might protect against and minimise levels of burnout and compassion fatigue and increase compassion satisfaction in healthcare professionals is highlighted.

Chapter one provides a systematic review of the literature examining the relationship between burnout and emotional intelligence (EI) among healthcare professionals. EI has evolved from early definitions of human intelligence and has been described in a number of ways. Some researchers view EI as being an ability (Mayer & Salovey, 1997), others, a set of traits and abilities (Bar-On, 2005), or as a combination of personal competencies and skills (Goleman, 1998). Within healthcare, there is an identified need to better understand the different distinctions of emotion and the blurring of boundaries between emotion and clinical

work given the personal nature of caring professions and the conflicting dilemmas faced by staff. These dilemmas include increasing workloads, the stresses of delivering emotion-focused work and the impact of this on the health of care givers (Waddington & Fletcher, 2005). EI is important within the field of healthcare as it is suggested that when staff are able to link their emotions and cognitions, they are better able to facilitate more intelligent decision-making, manage their own emotions, and foster healthier working relationships (George, 2000). EI is recognised as supporting staff to provide more patient-centred care which is recognised as a focus of many health care systems universally (NHS Department of Health [DOH], 2000). It is therefore suggested that looking into the association between burnout and EI in healthcare staff is important both clinically and organisationally. The literature appears to suggest that there is a negative relationship between EI and burnout within healthcare staff. However, a wider approach is required to explore the role of organisational culture as a mediator in the relationship between burnout and EI in healthcare staff. Furthermore, a variety of tools were used to measure EI which made comparison across studies difficult to interpret.

Chapter two provides an empirical study which examined inter-psycho factors (including self-reported PTSD symptoms, EI and emotion regulation strategies) that have previously been related to professional quality of life dimensions including burnout, compassion fatigue and compassion satisfaction. There is recognition that those working within forensic services experience greater levels of burnout and fatigue as a result of managing high levels of threats of violence and physical aggression and reduced job satisfaction due to prolonged participation in unsuccessful treatment situations (Cacciacarne, Resnick, McArthur & Althof, 1986; Pines & Maslach, 1978). Despite this, research into the professional quality of life of this particular group remains limited. It is anticipated that this is the first research study to examine the relationship between these variables within forensic

healthcare staff. The study found that PTSD symptoms were a significant predictor of professional quality of life, specifically higher levels of burnout and compassion fatigue and lower levels of compassion satisfaction. Emotional clarity was also identified as a significant predictor of burnout and compassion fatigue. The results add to previous findings by highlighting the predictive ability of emotional intelligence, specifically clarity of feelings, in reducing burnout and compassion fatigue in a forensic healthcare population. Further research is required into the interplay between interpersonal and organisational factors in predicting quality of life in this population.

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Chapter 1: Systematic Literature Review

Exploring the Relationship Between Emotional Intelligence and Burnout in Healthcare

Professionals: A Systematic Review

Abstract

Background: The impact of the negative consequences of austerity, increasing work pressures and reduced funding on the wellbeing of healthcare professionals remains unclear. Emotional intelligence has been highlighted as a potential factor in reducing self-reported levels of burnout in healthcare staff, but the results are often complex. The objective of the current review is to systematically review and synthesise the published literature relating to the relationship between emotional intelligence and burnout in healthcare staff.

Methodology: A systematic literature review was conducted in line with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. A number of electronic databases were searched using multiple search terms to identify appropriate articles. The quality of studies was assessed using the Appraisal Tool for Cross-Sectional Studies (AXIS).

Results: 274 studies were identified. Thirteen papers met the inclusion/exclusion criteria and were included in the review. The majority of studies indicated some form of negative relationship between burnout and emotional intelligence, suggesting that higher global levels of emotional intelligence are related to lower levels of burnout in healthcare staff.

Conclusions: The findings provide consistent evidence to support a negative relationship between EI and burnout in healthcare professionals, particularly when emotional intelligence was measured by a global score. However, given equivocal relationship between individual subscales of emotional intelligence and burnout, further research is recommended to better understand the relationship between individual subscale scores of emotional intelligence and levels of burnout. Such findings have clinical implications for healthcare organisations who are required to develop interventions aimed at improving staff-wellbeing and reducing burnout.

Keywords: Emotional intelligence, burnout, healthcare professionals

Introduction

There is increasing attention being given to issues of psychological distress among healthcare professionals (Weinberg & Creed, 2000). Healthcare professionals are expected to manage a number of interpersonal and organisational challenges on a daily basis, with increasing levels of stress and burnout developing as a consequence of challenging working conditions and reduced job resources which can impact upon the quality of care delivered to patients (Firth-Cozens, 2001). Understanding how burnout can be prevented and managed within the workplace is recognised as an important factor both from the perspective of public health and for services aiming to reduce staff absence and promote productivity (Public Health England, 2016).

Burnout

Although burnout has been defined in several ways, many researchers favour a multifaceted definition in which burnout comprises of three key dimensions, namely emotional exhaustion, cynicism and reduced professional efficacy (Maslach, Jackson & Leiter, 1996). There are several measures of burnout, which all vary in relation to which dimensions are assessed and the type of responses required. To date, there are no measures that serve to provide a clinical ‘cut-off score’ or ‘diagnosis’ and use of different measures is likely to depend on the population being researched, size of population and financial limitations (Mayer, 2018).

The Maslach Burnout Inventory (MBI; Maslach & Jackson, 1981) was one of the earliest measures designed to measure burnout in human services professional groups. The MBI has been widely used, has demonstrated high test-retest reliability and internal consistency across studies (Maslach & Jackson, 1981), and is recognised as the “gold standard” assessment (Bradham, 2008). The first dimension of the MBI is emotional exhaustion and refers to experiences of prolonged fatigue and stress as a result of excessive

work demands. The second dimension of cynicism, or depersonalisation, relates to an emotional detachment or distance between the individual and their work and/or clients, resulting in a loss of interest and reduced work ethic. Lastly, lack of personal accomplishment refers to reduced feelings of professional efficacy or achievements within an individual's work with clients (Maslach, Schaufeli & Leiter, 2001). All dimensions have been recognised as having various negative consequences, both for the individual and the wider organisation. Despite the accumulating evidence base supporting the reliability and validity of the MBI, there have been some criticisms identified in relation to the nature of the factor structure. Results from a meta-analysis identified substantial support for a correlated three-factor model, but solutions with both more or less factors also demonstrated modest support (Worley, Vassar, Wheeler & Barnes, 2008).

There are also a number of other well-validated multidimensional measures of burnout which exist including the Oldenburg Burnout Inventory (OBLI; Demerouti, Bakker, Vardakou & Kantas, 2003) which consists of positively and negatively framed items covering areas of exhaustion and disengagement from work; the Professional Quality of Life Scale (ProQOL; Stamm, 2010) which assesses positive and negative aspects of professional care; the Copenhagen Burnout Inventory (CBI; Kristensen, Borritz, Villadensen & Christensen, 2005), which comprises three subscales including personal burnout, work-related burnout and client-related burnout, and the Burnout Measure (BM; Pines & Aronson, 1988), which measures physical, emotional and mental exhaustion. There are however a number of limitations of such measures, including the fact that the psychometric properties of translated versions of the measures have rarely been evaluated and there few recommendations for effectively adapting and translating the instrument (International Test Commission, 2018). More recently, there have been arguments that burnout should be viewed more as a unidimensional phenomenon (Halbesleben & Buckley, 2004).

Burnout in Healthcare

It is well documented that those working in healthcare roles are more susceptible to developing symptoms associated with burnout compared to those in non-helping professions (Kowalski et al., 2010; Morse, Salyers, Rollins, Monroe-DeVita & Pfahler, 2012). Staff wellbeing and burnout is associated with both patient safety and care quality. It is acknowledged that the negative consequences of burnout may impact the quality of health care being delivered to patients as a result of impaired job performance and employees presenting as less empathic, collaborative and attentive (Fahrenkopf et al., 2008; Slayers et al., 2016; Vahey, Aiken, Sloane, Clarke & Vargas, 2004).

Increased burnout levels are also associated with increased rates of staff sickness, with the most common reasons for staff absence among NHS employees identified as stress, anxiety, depression or other psychological difficulties. Sickness days are believed to have risen from 16.9% in 2011 to 23% in 2017 (Copeland, 2019), and it is suggested current levels of stress among staff within the NHS are higher than the general population (Point of Care Foundation, 2017). Higher levels of burnout have also been found to predict higher staff turnover (Leiter & Maslach, 2009; Willard-Grace et al., 2019), reduced productivity and efficiency (Jenkins & Elliott, 2004), and lower job satisfaction (Griffin, Hogan, Lambert, Tucker-Gail & Baker, 2010). It is estimated that within the UK, increased rates of stress-related absences and job turnover cost £450,000 a year per NHS trust (Wright, 2005). There is, therefore, an identified need to address increasing levels of occupational burnout. Steps toward this aim include developing an understanding of individual differences in susceptibility to burnout, and, developing an understanding of self-care strategies to support professional groups at risk of burnout.

Emotional Intelligence

Attempts have been made to identify personality traits or characteristics that may shield against the negative consequences of occupational burnout, acting as protective factors against aspects of job stress. Although the concept of emotional intelligence (EI) has only recently been discussed in relation to healthcare workers, the concept is not new, and others have emphasised the importance of managing ones' own emotional state (Chhabra & Mohanty, 2013). Emotions are recognised as being a core function of human nature, and recent developments in the field of EI have seen increased interest in understanding the role of emotions in relation to workplace behaviours, attitudes and performance (Arvey, Renz & Watson, 1998).

The construct of EI is based on concepts including 'social intelligence' (Thorndike, 1920) and interpersonal and intrapersonal intelligence, with a focus on the ability to understand the emotions and intentions of oneself and others (Gardner, 1983). The first formal theory of EI proposed that emotional information processing abilities made up a unitary 'emotional intelligence'. Salovey and Mayer (1990) initially defined EI as "a type of social intelligence that involves the ability to monitor one's own and others' emotions, to discriminate among them, and to use this information to guide one's thinking and actions" (p. 189).

EI saw an increase in popularity following the publication of 'Emotional Intelligence' in 1995 by Daniel Goleman. This publication argued that our current view of human intelligence alone was too narrow and ignored a range of important abilities that human beings have to offer. The surging popularity of EI is credited to reports of its predictive validity and research indicates the importance of EI as a predictor across domains relevant to the field of healthcare such as job performance, leadership, and stress (Fulmer & Barry, 2004; Humphrey, 2006; Jordan, Ashkanasy & Hartel, 2002). According to Goleman, people with

greater EI show a greater ability to control emotional impulses, better self-awareness and understanding of one's own feelings, and greater ability to express one's feelings and demonstrate insight into the feelings of others (Goleman, 1995). It is argued that people with better self-awareness are better able to detach from situations and control their emotions to minimise the impact of their emotional reaction (Slaski & Cartwright, 2003).

EI is typically positioned into one of two conceptualisations based on the method of measurement that is used to operationalise it: ability models and trait/mixed models respectively (Petrides & Furnham, 2000; Zeidner, Matthews & Roberts, 2009). The ability EI perspective posits that EI is the amalgamation of intelligence and emotion (Mayer, Salovey & Caruso, 2004) and conceives that EI is a collection of interrelated cognitive-emotional abilities, and is assumed as one's ability of carrying out accurate emotional reasoning (Mayer, Roberts & Barsade, 2008). It is proposed that ability EI consists of four individual but related abilities including perception, use of, understanding and management of emotions (Mayer & Salovey, 1997). Ability EI is measured using maximum, IQ-like performance testing. One of the most prominent ability EI scales is the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT; Mayer et al., 2004). The main problem with the MSCEIT is that it does not measure any consistent dimension of psychological interest (Petrides, 2011), and factor analytic research has produced inconsistent results (Roberts et al., 2006).

Conversely, trait/mixed models argue that EI is instead conceptually related to specific personality dimensions and is an eclectic mix of dispositional affect-related traits (Petrides & Furnham, 2003). Trait/mixed EI models suggest that EI is a collection of emotional self-perceptions which integrate aspects of affective personality and are measured through self-report or observer ratings (Petrides, Pita & Kokkinaki, 2007). An advantage of trait/mixed EI theory is that it provides a link between EI and more mainstream scientific models such as the Big Five and the Giant Three (Petrides et al., 2010). Some well-known

measures include Bar-On's Emotional Quotient Inventory (EQ-I; Bar-On, 1997a); Trait Emotional Intelligence Questionnaire (TEIQue; Petrides, 2009), and the Trait Meta-Mood scale (TMMS; Salovey et al., 1995). Whilst it is argued that self-report measures of trait EI are not representative of EI ability (Brackett & Mayer, 2003), it is argued that despite individuals possessing the ability to respond emotionally to another person, this does not necessarily mean that they would use such skills in clinical practice (Brody, 2004).

There are ongoing debates around the conceptualisation and operationalisation of the construct of EI (Ciarrochi, Chan & Caputi, 2000) and the evidence-base to support the use and measurement of EI is still in its early stages. It is argued that EI may be best understood by differentiating between the various models and theoretical underpinnings as opposed to comparing tests (Cherniss, 2010). There are many sceptics who argue EI is an "elusive concept" (Davies, Stankov & Roberts, 1998) and there is continued necessity for systematic research into the construct (Mayer, Caruso & Salovey, 2000).

Emotional Intelligence in Healthcare

As EI is recognised as the ability to recognise, understand, control and use emotions, it is thought to impact upon levels of job stress and the associated negative consequences within the field of healthcare. Whilst there is conflicting research and differences in definitions and measures, research has demonstrated a positive association between EI and quality of interpersonal relationships, well-being and job performance (Brackett & Caruso, 2007; O'Boyle, Humphrey, Pollack, Hawver & Story, 2011; Sánchez-Álvarez, Extremera & Fernández-Berrocal, 2016), with a stronger association identified in those job roles with increased emotional labour demands (Joseph & Newman, 2010).

Healthcare staff are often expected to regulate their own emotional displays as well as those of their patients. It is suggested that staff who are more emotionally intelligent, are better equipped to manage the emotional and social pressures associated with their work.

Furthermore, EI is recognised as an important concept in healthcare when considering the influence of emotions in decision-making which can impact patient safety, outcomes, and quality of healthcare by improving professional-patient interactions (Skarbalienė, Skarbalius & Gedrime, 2019).

Rationale and Aims for Current Review

The impact of burnout on healthcare staff has shown to have a number of negative consequences on staff well-being, patient outcomes and financial pressures on organisations. Therefore, the importance of understanding those factors that might protect against and reduce levels of burnout in healthcare professionals is highlighted. It is hypothesised that EI is a protective factor against burnout vulnerability, as individuals with higher EI are better able to evaluate difficult situations as a challenge as opposed to a threat and increases self-confidence in dealing with such situations (Mikolajczak & Luminet, 2008). There is now an increasing evidence base to suggest that it is possible to increase EI through specific training programme interventions to enhance stress resilience and reduce burnout symptoms (Karahan & Yalçın, 2009; Nelis, Quoidbach, Mikolajczak & Hansenne, 2009). However, the relationship between burnout and EI has not yet been systematically examined in healthcare staff, despite a strong theoretical rationale for a relationship between the two constructs.

Previous reviews exploring the relationship between burnout and EI in other professions, including teachers, have previously been conducted (Merida-Lopez & Extremera, 2017) and EI has been shown to reduce occupational stress, negative moods and experiences of positive emotional states (Zeidner, Matthews & Roberts, 2012). However, to date, there are no reviews which have integrated studies examining the association between burnout and EI in healthcare professionals, which is indicative of a substantial challenge to future research and possible practical implications.

Measures of burnout may be beneficial to identify rates of burnout in healthcare staff and also to target interventions for those “at risk” groups. Furthermore, as a key concept in the delivery of effective healthcare, EI is recognised as supporting staff to provide more patient-centred care which is recognised as a focus of many health care systems universally (NHS Department of Health [DOH], 2000). It is therefore suggested that exploring the relationship between burnout and EI in healthcare staff is important both clinically and organisationally.

The current review therefore aims to synthesise findings from studies to systematically explore whether there is a relationship between EI and self-reported levels of burnout in healthcare staff. The focus of the current review was threefold: (1) to explore whether burnout is related to EI; (2) to gain a more nuanced understanding of this relationship in terms of individual facets and dimensions of EI; (3) to examine what the methodological standard of the available evidence is.

Methods

Whilst developing the systematic review protocol, the Preferred Reporting Items for Systematic Reviews and Meta-Analyses principles were considered (PRISMA; Moher, Liberati, Tetzlaff, Altman & Group, 2009). Following these principles, the protocol was registered on PROSPERO (see Appendix 1) which is an international prospective register of systematic reviews within healthcare (www.crd.york.ac.uk/PROSPERO, CRD42019139841).

Information Sources

Preliminary scoping searches were conducted in order to identify appropriate search terms and data bases. Five databases in total were used: PubMed, PsychINFO, Web of Science, MEDLINE via OvidSP and CINAHL Plus. Search terms were in four categories, and were relevant to burnout, EI, types of healthcare workers, and types of healthcare setting, as follows: (burnout OR burn-out OR “burn out”) AND (“emotional intelligence” OR

“emotional competence” OR “EQ”) AND (nurs* OR midwi* OR doctor OR “health worker” OR physician OR clinician OR psycholog* OR psychiatr* OR “emergency worker” OR “health care professional” OR “health visitor” OR “support worker” OR “health care assistant” OR “care worker”) AND (hospital OR ward OR inpatient OR acute OR rehabilitat* OR “nursing home” OR “residential home” OR hospice OR outpatient OR community OR “medical cent*” OR healthcare OR "health care" OR "health setting" OR "health organisation" OR "national health service" OR "NHS" OR "health service" OR "medical service" OR "medical setting" OR "clinical setting" OR "clinical service").

Inclusion and Exclusion Criteria

Following initial scoping searches, the criteria for inclusion and exclusion of studies were generated by the primary researcher and corroborated by research supervisors. Studies were only included in the review if they met the following inclusion criteria: a) study used quantitative methodology and analyses, b) study was of cross-sectional design, c) participants were practicing healthcare professionals aged 18 years and above, d) full-text published in English and electronically accessible (due to constraints on time and budget), e) validated measures of burnout and emotional intelligence were used.

With regards to criterion b, studies with designs other than cross-sectional were excluded in order to facilitate synthesis across studies. With regards to criterion c, whilst no healthcare population was excluded, any studies including participants from outside of healthcare professions within their findings were excluded from the review. The only exception to this was if studies divided their results by healthcare staff and non-healthcare professions, in which case studies would be included. Any studies that were not published in a peer-reviewed journal were excluded. In addition, studies that included student/trainee health care professionals were excluded. It was felt that student experiences may differ somewhat given their temporary position as learners.

Search Strategy

Search results were merged using the Clarivate Analytics Endnote X9 reference-management software (2018). All initial searches were completed by the primary author. Duplicates were removed and eligibility was established in two subsequent stages. The first stage included screening of article titles and abstracts, and studies that did not meet the inclusion criteria were excluded. Twenty percent of articles that were excluded ($n=26$) following title and abstract screening were independently assessed by an independent reviewer against the inclusion and exclusion criteria. The second stage included screening the remaining full text papers for eligibility against the inclusion criteria. Twenty percent of excluded full text papers ($n=5$) were also independently assessed. Any discrepancies were discussed with the wider research team until a consensus was reached.

Manual searches were undertaken using Google Scholar which identified four additional articles, while searching reference lists did not produce any additional relevant articles. Databases were searched for studies between 1995 to August 2019, given that the term ‘emotional intelligence’ originally began gaining recognition after publication of “Emotional Intelligence” by Goleman (1995). Additionally, searches were limited to adult participants 18 years and above and to publications appearing in academic journals. This process of screening eligible studies is reported using the PRISMA flow chart of the study selection process (Moher et al., 2009) (see Figure 1).

Data Extraction

To support the aim of the review, data relating to the study characteristics, including author, year, study design, healthcare setting, burnout measure and emotional intelligence measure, were all extracted. Data relating to participant information was also extracted, including number of participants, profession, gender, age (mean and range) as well as

summary of the key results pertaining to the relationship between burnout and emotional intelligence.

Quality Assessment

A number of quality assessment tools were considered for the current review (see Appendix 2). The Appraisal Tool for Cross-Sectional Studies (AXIS; Downes, Brennan, Williams & Dean, 2016) was identified as the most appropriate tool to assess bias in the current review. The AXIS is comprised of 20 items and requires ratings to be provided on whether studies met, or did not meet these quality criteria across key methodological areas (see Appendix 3). The design specific nature of the tool ensured that all items were relevant. Similarly, the tool is presented as a checklist, as opposed to a scale. This allows for a more transparent approach to identifying principal and potential sources of bias within a study (Sanderson, Tatt & Higgins, 2007) and provides a more comprehensive exploration of studies strengths and limitations rather than interpreting a single score. All included studies were double-rated by a second reviewer to ensure inter-rater reliability. Ratings from the two authors were combined and disagreements on two of the papers were resolved through discussion and consensus.

Data Synthesis and Analysis

Results tables were utilised to capture both the extracted data (Table 1) and the quality assessment process for each individual study (Table 2). The findings have also been narratively synthesised across studies.

Results

Study Selection

A total of 13 articles were included in the review (see Figure 1). No additional papers were found through hand searching of the reference list of eligible articles.

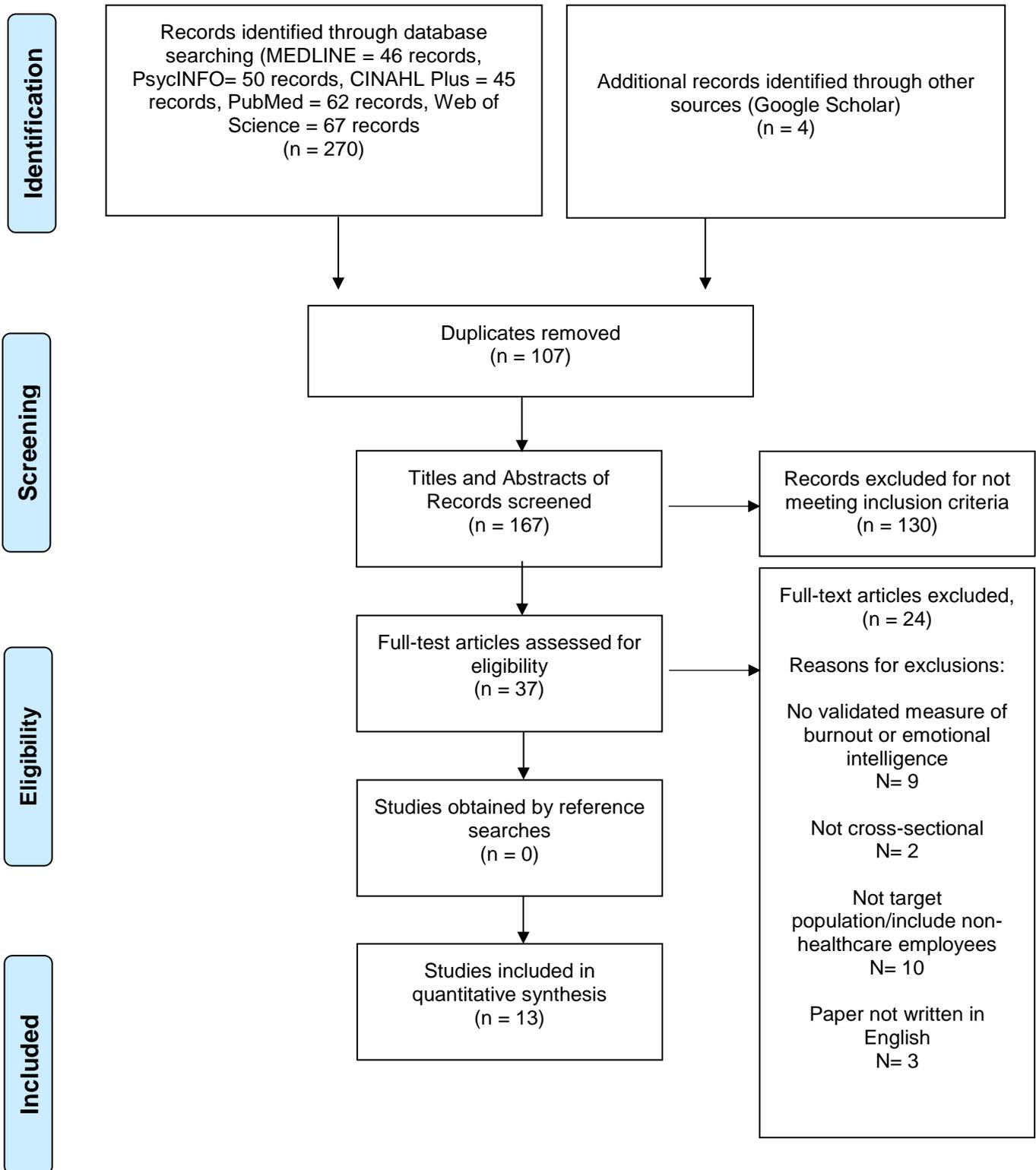


Figure 1. Flow diagram of identified articles

Types of Healthcare Professionals

Data extraction of the included cross-sectional studies revealed several groups of healthcare professionals working across different clinical settings. Eight studies recruited general/psychiatric nurses and nursing assistants or a mixture of the two, across a variety of settings. One study also incorporated doctors in the sample (Năstasă & Fărcaș, 2015) and one study included certified nursing aides (Molero, Pérez-Fuentes, Gazquez, Simon, & Martos, 2018). The remaining studies incorporated different healthcare professionals across particular settings including learning disability services and rehabilitation. (see Table 1).

Geographical Location

Studies were carried out across eight different countries, with Spain being the most common with five studies conducted here. Two studies were conducted in Greece and in South Africa. One study was conducted in Holland, one in China, one in Romania and one in Poland (see Table 1).

Table 1*Data Extracted from Studies Relating to Participant Details and Characteristics*

Authors and Year	Professional Group and Healthcare Setting	Sample Size (N), breakdown by job role and response rate	Gender	Age Range	Age Mean (SD)	Measure of Burnout	Measure of Emotional Intelligence
Aldaz et al. (2019)	Nursing assistants working within ten Spanish nursing homes for older adults	Total 159 Response rate not provided	Female 93.7% Male not reported	22-65	42 (9.86)	Spanish Version of Maslach Burnout Inventory Human Services Survey (MBI-HSS; Maslach et al, 1996).	Short Spanish Version of the Trait-Meta Mood Scale (TMMS-24; Fernández-Berrocal et al, 2004).
de Looff et al. (2018)	Nursing staff members working into four Dutch forensic psychiatric hospitals for clients with intellectual disabilities and severe challenging behaviour	Total 114 92% response rate	Female 59% Male not reported	21-59	35.2 (9.7)	Dutch version of the Maslach Burnout Inventory (Maslach & Jackson, 1981).	Dutch version of Bar-On Emotional Quotient Inventory (EQ-i; Bar-On, 1997).

Authors and Year	Professional Group and Healthcare Setting	Sample Size (N), breakdown by job role and response rate	Gender	Age Range	Age Mean (SD)	Measure of Burnout	Measure of Emotional Intelligence
Durán et al. (2004)	Professionals working at institutions in Spain for people with intellectual disabilities	Total 112 24.2% response rate	Female 69 Male 42 Undisclosed 1	19-63	33 (8.6)	Maslach Burnout Inventory (Maslach & Jackson, 1981).	Trait-Meta Mood Scale (TMMS; Salovey et al, 1995).
Görgens-Ekermans & Brand (2012)	Nurses working in general wards, ICU's and other wards including maternity, paediatric and ER in South Africa	Total 220 Registered Nurses 41.8% Enrolled Nurses 13.9% Auxiliary Nurses 40.2% Qualifications not reported 4.1% 55.45% response rate	Female 89.3% Male not reported	Not reported	38.5 (9.26)	Maslach Burnout Inventory Human Services Survey (MBI-HSS; Maslach et al, 1996).	Swinburne University Emotional Intelligence Test (SUIET; Palmer & Stough, 2001).

Authors and Year	Professional Group and Healthcare Setting	Sample Size (N), breakdown by job role and response rate	Gender	Age Range	Age Mean (SD)	Measure of Burnout	Measure of Emotional Intelligence
Hong & Lee (2016)	General nurses working in a university hospital in G province	Total 211 Response rate not provided	Not reported	21-49	32.9 (7.12)	Burnout Measure-Short Version (BMS; Pines & Aronson, 1988).	Wong & Law Emotional Intelligence Scale (WLEIS; Wong & Law, 2002).
Koronaïou & Antoniou (2018)	Nursing staff working across general/dermatology and oncology units within public and private hospitals in Greece	Total 271 Oncology 87 General/dermatological 184 Public 236 Private 35 52.7% response rate	Female 224 (90.4%) Male 27 (9.96%)	20-50	Not reported	Maslach Burnout Inventory (Maslach & Jackson, 1981).	Trait Emotional Intelligence Questionnaire – Short Version (TEIQue-SF; Petrides, 2009).
Molero et al. (2018)	Certified nursing aides (CNAs) in Andalucía, Spain from different health centres	Total 278 Temporary contracts 199 (71.6%) Permanent contracts 79	Female 256 (92.1%) Male 22 (7.9%)	21-60	40.88 (9.41)	Brief Burnout Survey (CBB; Moreno et al, 1997).	Brief Inventory of Emotional Intelligence for Adults (EQ-i-20M; Pérez-Fuentes et al, 2014).

Authors and Year	Professional Group and Healthcare Setting	Sample Size (N), breakdown by job role and response rate	Gender	Age Range	Age Mean (SD)	Measure of Burnout	Measure of Emotional Intelligence
		(28.4%)					
		Response rate not provided					
Năstasă & Fărcaș (2015)	Healthcare professionals including doctors and nurses in Romania	Total 120 Response rate not provided	Not reported	26-52	Not reported	Maslach Burnout Inventory (Maslach & Jackson, 1981).	Emotional Intelligence Scale (EIS; Schutte et al, 1998).
Nel et al. (2013)	Staff working in hospitals across three provinces of South Africa	Total 511 Auxiliary Nurses 20.5% Staff Nurses 12.3% Registered Nurses 49.3% Unit Manager 7.6% Process Manager 0.6% Nursing Services Specialist 2.2% Paramedic 0.2%	Female 96.7% Male 2.3%	21-65	Not reported	Maslach Burnout Inventory Human Services Survey (MBI-HSS; Maslach et al, 1996).	Emotional Intelligence Scale (EIS; Schutte et al, 1998).

Authors and Year	Professional Group and Healthcare Setting	Sample Size (N), breakdown by job role and response rate	Gender	Age Range	Age Mean (SD)	Measure of Burnout	Measure of Emotional Intelligence
		Other 5.3%					
		34.07% response rate					
Nespereira-Campuzano & Vázquez-Campo (2017)	Graduate nurses and trained care assistants from an Emergency Department in Spain	Total 60 Graduate Nurses 36 Trained Care Assistants 24 68.1% response rate	Female 100%	Not reported	45.30 (8.01)	Brief Burnout Survey (CBB; Moreno et al, 1997).	Short Spanish Version of the Trait-Meta Mood Scale (TMMS-24; Fernández-Berrocal et al, 2004).
Pérez-Fuentes et al (2019)	Nurses from different health centres across Andalucía, Spain	Total 1307 Temporary posts 877 (67.1%) Permanent posts 430 (32.9%) Response rate not provided	Female 1104 (84.5%) Male 203 (18.5%)	22-60	32.03 (6.54)	Brief Burnout Survey (CBB; Moreno et al, 1997).	Brief Inventory of Emotional Intelligence for Adults (EQ-i-20M; Pérez-Fuentes, et al 2014).
Szczygiel & Mikolajczak (2018)	Nurses representing various care units including	Total 188 68% response rate	Female 188 Male 0	23-61	42 (9.43)	Oldenburg Burnout Inventory (OBLI; Demerouti et al, 2003)	Trait Emotional Intelligence Questionnaire – Short Version

Authors and Year	Professional Group and Healthcare Setting	Sample Size (N), breakdown by job role and response rate	Gender	Age Range	Age Mean (SD)	Measure of Burnout	Measure of Emotional Intelligence
	cardiology, surgery, orthopaedics, internal medicine, anaesthesiology and intensive care across three hospitals in Poland						(TEIQue-SF; Petrides, 2009)
Vlachou et al. (2016)	Healthcare staff working across three rehabilitation and medical centres in Greece	Total 148 Physiotherapists 62 Nurses 45 Doctors 19 Speech and Language Therapists <10% Occupational Therapists <10% 81.36% response rate	Female 84 (56.8%) Male 64 (43.2%)	22-62	Not reported	Maslach Burnout Inventory (Maslach & Jackson, 1981)	Trait Emotional Intelligence Questionnaire – Short Version (TEIQue-SF; Petrides, 2009)

Participant Demographics

There was a total of 3699 participants across all included studies. Despite including participants from differing job roles, three of the studies did not clearly report how many participants came from each role (Durán, Extremera & Ray, 2004; Năstasă & Fărcaș 2015; Szczygiel & Mikolajczak, 2018), with one study providing only percentages for each job role (Nel, Jonker & Rabie, 2013). On further exploration, of those studies that provided details about the number of participants from each job role, nursing was the most frequently cited professional group and included a total of 2392 participants (64.7%).

With exception of two studies (Hong & Lee, 2016; Năstasă & Fărcaș, 2015), all provided descriptive statistics on gender. Two studies reported that the entire sample was female but did not provide an indication that this formed part of their inclusion/exclusion criteria (Nespereira-Campuzano & Vázquez-Campo, 2017; Szczygiel & Mikolajczak, 2018). Two studies provided an indication as to what percentage of participants were female but did not report whether the remaining percentage was made up of male participants, other non-binary participants, or whether participants chose not to answer this item (de Loeff, Nijman, Didden & Embregts, 2018; Görgens-Ekermans & Brand, 2012). One study used a dichotomous variable to measure gender, reporting that the majority of the sample was female (93.7%) (Aldaz, Aritzeta & Galdona, 2019), so it was inferred that the remaining percentage consisted of male participants. The remaining papers provided numbers and percentages of the males and females in their study indicating that females were in the majority across all samples (Koronaïou & Antoniou, 2018) with one study also providing information on one participant who chose not to respond (Durán et al., 2004).

Mean ages were reported by nine studies and ranged between 32.03 to 45.3, and 11 of the 13 studies reported the age range of participants. Across all studies the youngest reported age was 19 years (Durán et al., 2004) and the eldest reported age was 65 (Aldaz et al., 2019;

Nel et al., 2013). Overall, participants recruited to the included studies comprised of more female participants and they were typically aged between 30 and 40 years.

Measures of Burnout and Emotional Intelligence

A variety of burnout measures were used throughout the included studies. The majority of studies ($n=8$) used versions of the Maslach Burnout Inventory (Maslach & Jackson, 1981), with the original version used in five studies and the Maslach Burnout Inventory human services survey (Maslach et al., 1996) used in three studies. The Brief Burnout Questionnaire (Moreno-Jiménez, Bustos, Matallana & Miralles, 1997) was used in three studies, The Oldenburg Burnout Inventory (Demerouti et al., 2003) was used in one study (and one study utilised the Burnout Measure-Short Version (Pines & Aronson, 1988) (see Table 1).

Similarly, a number of EI measurement tools were used, however it was noted that all studies used measures of trait EI. The short form of the Trait Emotional Intelligence Questionnaire (Petrides, 2009) was used in three studies, the abbreviated Spanish version of the Trait Meta-Mood Scale (Fernandez-Berrocal, Extremera & Ramos, 2004) was used in two studies, and the full version (Salovey et al, 1995) was used in one study. The Emotional Intelligence Scale (Schutte et al., 1998) was used in two studies, the Brief Emotional Intelligence Inventory for Adults (Pérez-Fuentes, Gázquez, Mercader & Molero, 2014) was used in two studies, and the remaining three studies used either validated Dutch version of the EQ-i (Bar-On, 1997), the Wong and Law Emotional Intelligence Scale (Wong & Law, 2002) or the Swinburne University Emotional Intelligence Test (Palmer & Stough, 2001) (see Table 1).

Quality Assessment Results

The AXIS methodology tool was used to explore the methodological quality of each study (see Table 2 for a summary of the findings). The quality assessment highlighted that all

13 studies clearly reported their aims and designs. The majority of studies provided no justification for their sample size, with just one study reporting the results of a power calculation. Hong and Lee (2016) did however discuss their sample size in relation to structural equation modelling which was used to test their hypothesised model. Eleven studies clearly defined their target samples and recruited participants from an appropriate population base. The remaining two studies were noted to lack clarity either in relation to the types of professionals included in the study (Durán et al., 2004) or lacking information as to where participants were recruited from (Năstasă & Fărcaș 2015). Nine of the 13 studies used convenience sampling methods with two studies limiting their recruitment to only one hospital site (Hong & Lee, 2016; Nespereira-Campzano et al., 2017), all of which raise concerns about the reduced generalisability of their findings. The remaining studies all recruited participants from a number of health centres, across both public and private hospitals which served to reduce the possibility of selection bias (Molero et al., 2018; Nel et al., 2013; Pérez-Fuentes, Molero-Jurado, Gázquez-Linares & Simon-Márquez, 2019). It is however noted that these studies did not use more official measures of sample representativeness therefore the possibility of an unbiased sample cannot be completely guaranteed in these cases. The majority of included studies also made no attempt to categorise non-responders ($n=9$).

Table 2*Quality Assessment Results from the AXIS tool*

	Clear aims/objectives	Appropriate design	Justified sample size	Defined population	Appropriate population base	Representative selection process	Categorise non-responders	Outcome variables measured appropriately to aims	Outcome variables measured by instruments previously trialled, piloted or published	Clear what determined statistical significance	Methods sufficiently described	Basic data adequately described	Concerns about response rate	Non-responders adequately described	Were results internally consistent	Results presented as described in methods	Discussions and conclusions justified	Limitations discussed	Funding sources/conflict of interest	Ethical approval/consent
Aldaz et al. (2019)	Yes	Yes	No	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	NA	No	Yes	Yes	Yes	Yes	No	Yes
de Looff et al. (2018)	Yes	Yes	No	Yes	Yes	No	No	No	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	Yes	No	Yes
Durán et al. (2004)	Yes	Yes	Yes	No	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No	No
Görgens-Ekermans & Brand (2012)	Yes	Yes	No	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	No	Yes
Hong & Lee (2016)	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	NA	Yes	Yes	Yes	Yes	Yes	No	Yes
Koronaïou & Antoniou (2018)	Yes	Yes	No	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No	No	No
Molero et al. (2018)	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	NA	No	Yes	Yes	Yes	Yes	No	Yes
Năstasă & Fărcaș (2015)	Yes	Yes	No	Yes	NA	NA	No	Yes	Yes	Yes	Yes	Yes	NA	No	Yes	Yes	Yes	No	No	No

	Clear aims/objectives	Appropriate design	Justified sample size	Defined population	Appropriate population base	Representative selection process	Categorise non-responders	Outcome variables measured by instruments previously trialled, piloted or published	Outcome variables measured by instruments previously trialled, piloted or published	Clear what determined statistical significance	Methods sufficiently described	Basic data adequately described	Concerns about response rate	Non-responders adequately described	Were results internally consistent	Results presented as described in methods	Discussions and conclusions justified	Limitations discussed	Funding sources/conflict of interest	Ethical approval/consent
Nel et al. (2013)	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No	Yes
Nespereira-Campuzano & Vázquez-Campo (2017)	Yes	Yes	No	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	Yes	No	Yes
Pérez-Fuentes et al. (2019)	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	NA	Yes	Yes	Yes	Yes	Yes	No	Yes
Szczygiel & Mikolajczak (2018)	Yes	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes
Vlachou et al. (2016)	Yes	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No	No	Yes

Note. NA = not reported.

It is also noted that in relation to rates of attrition and exclusion, some studies referred to participants who failed to meet the inclusion criteria (Hong & Lee, 2016), questionnaires which had been inappropriately completed (Szczygiel & Mikolajczak, 2018; Vlachou et al., 2016) or participants responding inappropriately to attention checks or control items (Perez-Fuentes et al., 2019).

All but one of the included studies ($n=12$) used measures relevant to the aims of the study. The remaining study included a measure of job-related stress, but there was no clear rationale for its inclusion and it was not referred to in the study aims or hypotheses (de Looff et al., 2018).

Consistent with the inclusion criteria, all studies used validated measures that had previously been trialled, piloted or published. However, one study (Görgens-Ekermans & Brand, 2012) included a measure which was created on the basis of a pilot study conducted by the authors themselves, in the reported absence of alternative measures for assessing self-reported emotions experienced by nurses. Furthermore, despite not being widely used, two studies (Molero et al., 2018; Pérez-Fuentes et al., 2019) used a translation of the validated Emotional Intelligence Inventory: Young Version measure (EQ-i-YV; Bar-On & Parker, 2000) which was subjected to factor analysis by the authors. All 13 studies reported how they determined their statistical significance, adequately described their statistical analysis in enough detail to allow future replication, and finally all studies sufficiently described the basic data pertaining to their results. The majority of studies ($n=8$) provided a response rate which ranged from 24.2% -92% across the articles. The remaining studies did not provide information about the response rate, which made it difficult to assess the potential non-response bias within the presented results (see Table 2). Concerns were raised within two studies which had response rates of less than 40% meaning that the possible non-response bias was greater within these studies (Durán et al., 2004; Nel et al., 2013).

Twelve studies presented their results consistently, providing consistent numbers within the text, tables and figures. However, it was noted that de Looff et al. (2018) did not meet this criterion as they inconsistently presented the overall sample size. All 13 studies presented results for each of the analyses described in the methods, and in 11 studies, the conclusions drawn were supported by the results. One of the studies that violated this criterion incorrectly interpreted the correlation coefficients (interpreted as positive but reported as negative) (Nespereira-Campuzano & Vázquez-Campo, 2017), and the other referred to findings in the discussion that were not reported in the results section (Vlachou et al., 2016). All but three studies described the limitations of their research and funding sources and conflict of interest sources were stated by five studies (Aldaz et al., 2019; de Looff et al., 2018; Molero et al., 2018; Nespereira-Campuzano & Vázquez-Campo, 2017; Szczygiel & Mikolajczak, 2018) however these did not affect the interpretations made by the authors. Ten studies were noted to report the ethical approval and consent of participants with two of these studies discussing ethical approval but not on informed consent (Molero et al, 2018; Görgens-Ekermans & Brand, 2012), one study described consent but not ethical approval (Vlachou et al., 2016) and the remaining three articles did not report either (see Table 2).

Methodology

Table 3 provides the data extracted from studies that related to the relationship between burnout and EI and the type of statistical analyses used. All but three of the included studies used correlational analyses to explore the relationship between burnout and EI. However, it was identified that Vlachou et al. (2016) only reported findings of their correlations within their discussion and not within their results section making it difficult to identify specific correlation coefficients. Six studies used regression analyses to examine the relationship between these variables. Two of the studies used moderation models, two studies

used structural equation modelling and a mediation model and a t-test was used in one study each.

Table 3*Data Extracted from Studies Relating to Key Results*

Authors and Year	Relationship between Burnout and Emotional Intelligence
Aldaz et al. (2019)	Correlational analyses showed that attention ($r = .07$; $r = -.04$) and clarity ($r = -.13$; $r = -.12$) were unrelated to emotional exhaustion (EE) and depersonalisation (DP), respectively. Whilst repair was also unrelated to DP ($r = -.11$) it was negatively associated with EE ($r = -.14$, $p < .05$). Clarity ($r = .36$, $p < .01$) and repair ($r = .28$, $p < .01$) were also positively related to personal accomplishment (PA). Three hierarchical regressions, each with three steps, showed that after accounting for work related factors and alexithymia, the inclusion of dimensions of emotional intelligence in step 3 did not significantly improve the overall model for EE (R^2 change = 0.02), DP (R^2 change = 0.003) or PA (R^2 change = 0.044).
de Looff et al. (2018)	A moderated mediation analysis identified that the emotional intelligence dimension, stress management skill, was a significant moderator in the relationship between aggressive behaviour, job stress and burnout. The effect of physical aggression (X) on job stress (M) was dependent on the interaction between physical aggression (X) and stress management skills (W). This interaction was negative and non-significant ($p = .055$). The effect of physical aggression (X) on job-related stress (M) was dependent on the amount of stress management skills (W) reported by nursing staff.
Durán et al. (2004)	Correlational analyses showed that attention, clarity and repair were unrelated to EE ($r = .06$; $r = -.18$; $r = -.10$) and DP ($r = .02$; $r = -.07$; $r = -.04$) but clarity and repair were positively related to PA ($r = .25$, $p < .01$; $r = .31$, $p < .01$).
Görgens-Ekermans & Brand (2012)	Correlational analyses identified that the emotional intelligence dimensions of emotional recognition and expression (EREXP), understanding others' emotions

Authors and Year	Relationship between Burnout and Emotional Intelligence
	<p>(UEX), emotional management (EM), emotional control (EC) and global emotional intelligence score were positively associated with PA ($r = .269, p < .05$; $r = .425, p < .05$; $r = .319, p < .05$; $r = .300, p < .05$; $r = .409, p < .05$). EM and EC were both negatively related to EE ($r = -.307, p < .05$; $r = -.283, p < .05$) and DP ($r = -.322, p < .05$; $r = -.236, p < .05$). Global emotional intelligence score was also negatively to DP ($r = -.220, p < .01$). A moderated regression analysis found weak evidence that high vs low emotional intelligence had a significant differential effect on the relationship between stress and EE ($\beta = -0.323, t = -1.846, p = 0.067$). A second moderated regression found strong evidence that high vs low emotional intelligence had a significant differential effect on the relationship between stress and DP ($\beta = -0.546, t = -2.281, p = 0.024$).</p>
Hong & Lee (2016)	<p>Correlational analyses showed that total emotional intelligence score and total burnout score were negatively associated ($r = -.264, p < .001$). A structural equation model highlighted that burnout was significantly directly affected by emotional intelligence ($\beta = -0.29, CR = -3.80$).</p>
Koronaïou & Antoniou (2018)	<p>Correlational analyses showed that the emotional intelligence dimensions wellbeing, self-control, emotionality and sociability, as well as global emotional intelligence score were negatively associated with EE ($r = -.281, p < .01$; $r = -.230, p < .01$; $r = -.243, p < .01$; $r = -.354, p < .01$; $r = -.387, p < .01$) and DP ($r = -.214, p < .01$; $r = -.254, p < .01$; $r = -.270, p < .01$; $r = -.227, p < .01$; $r = -.328, p < .01$) and positively associated with PA ($r = .348, p < .01$; $r = .294, p < .01$; $r = .307, p < .01$; $r = .293, p < .01$; $r = .420, p < .01$).</p>
Molero et al. (2018)	<p>Correlational analyses showed that all emotional intelligence dimensions including intrapersonal, interpersonal, stress management, adaptability and mood were negatively related to burnout ($r = -.26, p < .001$; $r = -.29, p < .001$; $r = -.32, p < .001$; $r = -.34, p < .001$; $r = -.41, p < .001$). A logistic regression model showed that stress management was the best predictor of burnout ($\beta = -0.215, p = 0.012$).</p>

Authors and Year	Relationship between Burnout and Emotional Intelligence
Năstasă & Fărcaș (2015) Nel et al. (2013)	<p>Correlational analyses showed that global emotional intelligence score was negatively associated with PA ($r = -.451, p < .01$).</p> <p>Structural equation modelling for the variables of emotional intelligence (including own emotions, positive emotions, emotional management and others emotions), job characteristics (including job demands and resources, task freedom and staff support), and work wellness (including burnout and engagement) highlighted significant paths between job demands and job resources; job demands, emotional intelligence and work wellness and job resources, emotional intelligence and work wellness. The paths showing the indirect effects of (i) job demands and (ii) job resources on work wellness, through emotional intelligence, were significant.</p>
Nespereira-Campuzano & Vázquez-Campo (2017)	<p>Correlational analyses showed that the emotional intelligence dimension clarity was negatively related to PA ($r = -.277, p < .05$). <i>T</i>-Tests found that participants who achieved scores within the ranges of normality for emotional intelligence showed significantly lower scores in the burnout syndrome elements and vice versa. A significant relationship was identified between clarity and personal accomplishment ($p = 0.04$) and between repair and depersonalisation ($p = 0.01$).</p>
Pérez-Fuentes et al (2019)	<p>Correlational analyses showed that all emotional intelligence dimensions including intrapersonal, interpersonal, stress management, adaptability and mood were negatively associated with burnout ($r = -.26, p < .001$; $r = -.26, p < .001$; $r = -.36, p < .001$; $r = -.22, p < .001$; $r = -.22, p < .001$; $r = -.34, p < .001$). A logistic regression model showed that of the emotional intelligence elements, stress management was the best predictor of burnout ($\beta = -.311, p < .001$).</p>

Authors and Year	Relationship between Burnout and Emotional Intelligence
Szczygiel & Mikołajczak (2018)	Correlational analyses showed that global emotional intelligence score was negatively related to emotional exhaustion ($r = -.30, p < .001$), disengagement ($r = -.36, p < .001$) and global burnout score ($r = -.36, p < .001$). A moderated hierarchical regression with three steps showed that the addition of emotional intelligence accounted for additional variance in burnout scores after accounting for control variables and negative and positive emotions experienced at work (R^2 change = 0.02, $p < .05$), with higher EI associated with lower burnout ($\beta = -.18, p < .05$).
Vlachou et al. (2016)	A simple linear regression with only one step, showed that the addition of global emotional intelligence score explained a significant proportion of the variance in burnout (R^2 change = 0.082, $p < .001$), with lower global intelligence score associated with higher burnout ($\beta = -.296, p < .001$). A multiple linear regression with only one step, showed that the addition of four factors of emotional intelligence (including well-being, self-control, emotionality and sociability) explained a significant proportion of the variance in burnout (R^2 change = 0.102, $p = 0.001$). The emotional intelligence dimensions self-control ($\beta = -.180, p = .067$) and emotionality ($\beta = -.297, p = .005$) were negatively associated with burnout and wellbeing ($\beta = .079, p = .448$) and sociability ($\beta = .036, p = .708$) were positively associated with burnout. A final multiple linear regression using the stepwise method showed that the addition of the emotional intelligence factors of well-being, self-control, emotionality and sociability, explained a significant proportion of the variance in burnout (R^2 change = 0.099, $p < .001$). Emotionality was identified as the most important predictive factor, with higher emotionality associated with lower levels of burnout ($\beta = -.325, p < .001$).

Note: EE = Emotional Exhaustion, DP = Depersonalisation, PA = Personal Accomplishment

Burnout and emotional intelligence relationship with total scores

Whilst conducting correlational analyses, three studies found a negative relationship between a total score of burnout and a total score of EI with two of these studies identifying a significant relationship. The strength of these correlations ranged from $r=-.264$ (Hong & Lee, 2016) to $r=-0.36$ (Szczygiel & Mikolajczak, 2018) indicating a small correlation between burnout and EI within these studies. All studies that examined the relationship between total scores of burnout and EI showed that EI was associated with lower levels of burnout.

Burnout subscales with emotional intelligence total scores

Given the nature of the burnout construct, it is imperative to explore how the individual facets of burnout relate to EI. Four studies examined the association between different subscales of burnout with a total EI score. Szczygiel and Mikolajczak (2018) found a relationship between EI and different facets of burnout, with burnout showing to be negatively correlated to the exhaustion and disengagement subscales.

Of those studies using the MBI to assess burnout, specifically the relationship between the three burnout subscales (emotional exhaustion, depersonalisation and personal accomplishment) and total EI score, an inconsistent pattern emerged. Koronaiou and Antoniou (2018) reported a significant negative correlation of EI with emotional exhaustion and depersonalisation, and a significant positive correlation with personal accomplishment. These findings suggest that higher levels of EI are related to lower levels of burnout across the subscales. Görgens-Ekermans and Brand (2012) partially replicated these results, finding a significant positive correlation between total EI score and personal accomplishment and a significant negative correlation with depersonalisation. Whilst they identified a negative correlation between EI and emotional exhaustion, this result was non-significant. This non-significant correlation was in the same direction as Koronaiou and Antoniou (2018), although a power analysis was not conducted and the study may have been underpowered to detect

some of the smaller effects. It is noted that the significant correlation reported by Koronaiou and Antoniou (2018) was better powered and may therefore represent a better estimate of the true size of the effect. Năstasă and Fărcaș (2015) also utilised the MBI and reported a non-significant negative correlation of emotional exhaustion with EI. However, their results differed to the previous two studies who also used the MBI, in that the direction of the relationship between EI and depersonalisation was positive, and they also found a significant negative relationship between EI and personal accomplishment.

In those studies that examined the relationship between burnout subscales and a total EI score, the majority found that EI was generally associated with lower levels of emotional exhaustion and depersonalisation and higher levels of personal accomplishment, with the exception of Năstasă and Fărcaș (2015) who found findings for depersonalisation and personal accomplishment in the opposite direction.

Burnout total score with emotional intelligence subscales

Two studies directly correlated global burnout score with different EI subscale scores and both found a significant negative correlation between burnout and the sub-scales of EI including intrapersonal, interpersonal, stress management, adaptability and mood. Furthermore, de Looft et al. (2018) calculated burnout as the total score of the emotional exhaustion and depersonalisation subscales of the MBI and identified that only stress management skill as part of the EI measure moderated the relationship between aggressive behaviour, job stress and burnout. They found that those who identified as having better stress management skills, reported lower levels of job stress and higher levels of stress were associated with higher levels of burnout.

In those studies that explored the association between global burnout score and subscales of EI, found that EI was associated with lower levels of burnout.

Burnout subscales with emotional intelligence subscales

Five of the 13 studies included correlations between individual subscale scores for burnout and for EI. Three studies provided correlations between three subscale scores on the three individual sub-scales on the TMMS and three dimensions of burnout as measured by the MBI. Two of these studies identified a significant positive correlation between the EI subscales of clarity and repair and the personal accomplishment dimension of burnout (Aldaz et al., 2019; Durán et al., 2004). Whilst Aldaz et al. (2019) also identified a significant positive relationship between personal accomplishment and attention and a significant negative relationship between the repair subscale and emotional exhaustion dimension of burnout, such results were not replicated by Durán et al. (2004). It was also noted that the direction of the relationship between these variables in the third study is somewhat ambiguous due to conflicting information detailed in the paper (Nespereira-Campuzano & Vázquez-Campo, 2017). Whilst the narrative reported that clarity positively correlated with personal accomplishment, the reported correlation showed that this relationship was in fact in the reverse direction. It is therefore difficult to state with certainty whether the reported correlation scores were reversed or if the narrative was reported incorrectly. They also found a significant relationship between repair and depersonalisation. The remaining two studies both identified significant positive correlations between the personal accomplishment dimension of burnout and all but one subscale of their EI measures. Furthermore, both papers found significant negative correlations between emotional exhaustion and depersonalisation dimensions of burnout and a number of the subscales of EI, with the strength of these correlations ranging between $r = -.230$ and $r = .378$ (Görgens-Ekermans & Brand, 2012; Koronaiou & Antoniou, 2018).

All studies that examined relationships between burnout subscales and different components of EI showed that higher EI was generally associated with lower levels of

burnout with the exception of Durán et al. (2004) and Nespereira-Campuzano & Vázquez-Campo (2017) who found mostly non-significant results and findings in the opposite direction.

Results from regression analyses

Six studies used regression analyses to explore the strength of predictor variables on burnout, and also to examine how EI affected burnout in healthcare staff. Two studies utilised a global score of EI (with one of these studies also including subscale EI scores). Görgens-Ekermans and Brand (2012) attempted to explore whether an interaction effect would exist when the impact of occupational stress was dependent upon EI. They therefore developed a dichotomous variable labelled 'EI-Low-High' with the median as the reference point. Trait EI emerged as a significant predictor of burnout using a global score of EI, with higher trait EI associated with lower burnout. It was also reported that interactions between negative emotions and trait EI accounted for a significant amount of the variance in burnout (Szczygiel & Mikolajczak, 2018). Similarly, in a model where total EI score was regressed onto burnout, the model showed that greater emotional intelligence was associated with significantly lower levels of burnout (Vlachou et al., 2016). Furthermore, Görgens-Ekermans and Brand (2012) found that EI had a moderating effect on the stress-burnout relationship, with their results suggesting that the moderator effect was slightly weaker for emotional exhaustion than for depersonalisation.

In terms of EI subscales and how they accounted for the variance in burnout, stress-management emerged as the most efficient predictor of burnout. Individuals who were identified as having the highest risk of burnout, were those who had medium to high levels of stress-management and low levels of interpersonal skill, as measured by an EI tool (Pérez-Fuentes et al., 2019). Similarly, another study which included the same subscales of EI (intrapersonal, interpersonal, stress management, adaptability and mood), found that stress

management predicted lower levels of burnout with the largest effect size (Molero et al., 2018). In a study which included the EI subscales of well-being, self-control, emotionality and sociability, it was identified that the overall models were significant and accounted for 10.2% of the variability in burnout when using the “enter” method and 9.9% when using the “stepwise” method, with emotionality identified as the factor which best predicted lower levels of burnout (Vlachou et al., 2016). Further, a study which reported three separate regressions to examine the association and explanatory ability of alexithymia with respect to the three dimensions of burnout, identified that none of the EI variables of clarity, attention or repair added incremental validity to emotional exhaustion, depersonalisation and personal accomplishment, whilst accounting for demographic variables including level of education, shift work and work experience (Aldaz et al., 2019).

In those studies which included subscale scores of both burnout and EI, both correlation and regression analyses indicated an overall pattern for subscale scores to be related to burnout in the expected direction. Some non-significant results were identified between the burnout dimensions of depersonalisation and emotional exhaustion and attention, clarity and repair subscales whilst the personal accomplishment dimension of burnout was significantly positively associated with all emotional intelligence subscales in the majority of included studies. The findings therefore suggest that higher EI may be associated with an increased propensity to make positive evaluations of one’s clinical work. Such results may also suggest that the negative dimensions of burnout are less likely to be related to particular subscales of EI however this interpretation is given with caution due to the limited studies which have reported on these specific subscales.

Discussion

A review of the literature reporting on the relationship between burnout and EI was conducted to identify whether interventions and training that increase EI might support health organisations to reduce burnout symptoms and improve staff wellbeing. This review systematically reviewed 13 articles published between 2004 and 2019, across professional groups, clinical settings and countries, examining the relationship between EI and burnout in an effort to advance understanding of the current position of healthcare populations.

The first two aims of the review were to explore whether there was a relationship between burnout and EI within the healthcare staff population and secondly, to identify the nature of this relationship. The majority of studies identified a negative relationship between burnout and EI which suggests that higher levels of EI are related to lower levels of perceived burnout in healthcare staff. Whilst this relationship was found to be fairly consistent across professional groups, the size and significance of reported correlations were somewhat mixed, with eight studies reporting moderate correlations (Cohen, 1992). It was noted that none of the studies found a large correlation between these two constructs which suggests that whilst a relationship between burnout and EI exists, the strength of this relationship may be questioned.

From closer exploration of those studies that reported global scores of EI or burnout, the majority identified a significant negative relationship with burnout which was in the anticipated direction. This supports the view that higher levels of EI are to some extent, protective against perceived burnout. It is hypothesised that individuals with higher levels of EI are better able to appraise stressful situations as a challenge as opposed to a threat and are more confident in their abilities to manage such situations (Mikolajczak & Luminet, 2008).

All five studies that reported on relationships between individual subscales of EI and burnout identified positive relationships between EI subscales and personal accomplishment. This suggests that greater EI is associated with an increased propensity to make positive interpretation of ones work with clients. Results were consistent across all studies for the EI subscales of clarity and repair which have previously been shown to predict psychological and interpersonal functioning in a positive direction (Extremera & Fernández-Berrocal, 2002). These findings support previous research showing that the EI subscale attention as measured by the Trait Meta-Mood Scale (Salovey et al., 1995) is not a consistent predictor factor and is often associated with negative mental health outcomes (Palmer, Donaldson & Stough, 2002). Such results provide support for the view that personal accomplishment is related more closely to resource as opposed to demand correlates. It is argued that demands result in physical and emotional exhaustion, whereas resources support an individual to overcome defensive coping and increase their self-efficacy (Hobfoll & Freedy, 1993). It indicates that EI is a personal resource which enables more positive perceptions of self-efficacy and self-appraisal at work (Lee & Ashforth, 1996). Concerns have previously been raised about the interpretation of personal accomplishment alongside the other two dimensions of the MBI including emotional exhaustion and depersonalisation (Gil-Monte, 2005), with several studies indicating that reduced levels of personal accomplishment should not be understood as a precursor or consequence of burnout and that it has a far less prominent role in explaining burnout (Bakker, Demerouti & Verbeke, 2004; Maslach et al., 2001).

The relationship between individual EI subscales and the burnout dimensions of emotional exhaustion and depersonalisation were however less clear. Only three of the five studies which reported relationships between individual subscales for both EI and burnout, identified a negative relationship of EI with emotional exhaustion and depersonalisation.

Such findings suggest that caution should be taken around the interpretation of the relationship between individual subscales of burnout and EI. Furthermore, not all studies included within the review reported on individual subscales. Thus, in order to gain a better estimate of the true effect, future studies should consistently report results for subscales of both EI and burnout.

The third aim of the review was to examine the methodological standard of the included studies. The studies included within the review demonstrated various methodological issues, as demonstrated in the results of the quality assessment. All studies adequately stated their aims and design, utilised validated tools to measure their variables of interest and described their statistical analyses in a way that would be replicable. The majority of studies recruited participants from a number of hospital sites and therefore allowed increased representativeness of the population of healthcare workers under consideration. It was however observed that a number of the studies were limited by convenience sampling methods and failed to address the potential sampling bias as part of their limitations. Such biased sampling is likely to have reduced the external validity of these studies (Aldaz et al., 2019; Koronaiou & Antoniou, 2018; Năstasă & Fărcaș, 2015; Pérez-Fuentes et al., 2018; Vlachou et al., 2016). Furthermore, the majority of articles recruited participants from general health hospitals and there were limited papers which explored the relationship between burnout and EI in learning disability, mental health or forensic services. Furthermore, a power calculation was only reported in one study. This made it difficult to gauge whether the remaining studies were underpowered. Some authors have suggested that small sample sizes are associated with inflated effect sizes and therefore some cautioned needs to be urged when interpreting the results of these studies (Kühberger, Fritz & Scherndl, 2014).

Despite the majority of studies including both male and female participants, the majority of the participant pool across all studies were female. This could support the argument that the evidence base, particularly for nurses, is gender biased, with researchers oversampling females (Polit & Beck, 2013), and therefore limits the generalisability of findings. However, the majority of participants in the current review were nurses ($n=2393$) and statistics support that females continue to account for the majority within the nursing and midwifery professions (Östlin, 2006), suggesting that the findings of the current review are in fact representative. Response rates ranged significantly from 24.2% to 92% with nine studies not adequately describing the characteristics of non-responders. The limited response rates across a number of studies is indicative of an increased risk of non-response bias and suggests that the quality of the reporting and design may have been limited. Similarly, whilst the review attempted to explore the relationship between EI and burnout across different professional groups, it is noted that the majority of the sample is made up of nurses and therefore the generalizability of findings to other healthcare contexts should be done with some caution.

The review does provide support that the negative relationship between EI and burnout is cross-cultural given that studies were conducted across various countries and continents. It is however important to highlight that English was not the first language in any of the countries in which the studies were conducted and five of these studies did not provide information about adaptation or translation of the measures. Research suggests that cultural and language differences can influence participants responses and subsequently the interpretation of self-report measures (Bowling, 2005). Whilst burnout as a concept within health professions remains a cross-culturally relevant topic, the language used to express or define burnout and its dimensions do not always culturally exist or the concept itself may be viewed as culturally offensive. Researchers should take care when selecting measurement

tools which have been cross-culturally translated and evaluated prior to use (Squires, et al., 2014). Similarly, research has shown that cultural dimensions can influence the cross-cultural application of a self-report EI measure and cultural dimensions have shown to be an important factor which should be accounted for in the global assessment of EI (Ekermans, 2009).

The importance of reflecting on impact of external influences that may have contributed to the risk of burnout is also highlighted. Occupational stress was accounted for within four studies and has previously been identified as a significant risk factor for burnout in healthcare staff (Gosselin, Bourgault & Lavoie, 2016). Such findings suggest that the greater the perceived level of stress, the higher emotional exhaustion and depersonalisation and reduced personal accomplishment in healthcare professionals. Similarly, previous research has highlighted the importance of emotional labour within healthcare environments, whereby staff are often expected to express positive emotions and mask negative emotions. This can increase feelings of emotional distance and inauthenticity and in turn increase burnout (Diefendorff, Erickson, Grandey & Dahling, 2011). Two studies accounted for the impact of negative emotions experienced at work and found that the risk of developing burnout is heightened in those who lack EI, and EI has also been found to mediate the relationship between emotional labour and burnout (Hong & Lee, 2016; Szczygiel & Mikolajczak, 2018). These findings have implications for healthcare organisations in supporting their staff to increase their EI skills and reduce the intensity, frequency and duration of negative emotions experienced at work. In support of this conclusion, Shahid, Stirling & Adams (2018) found that by improving the EI of physicians through an educational intervention, their overall wellness scores increased which may reduce the risk of developing burnout in future.

Other confounding variables of the relationship between burnout and EI that were identified included job characteristics (such as job tasks, demands and resources). In the current review, health professionals identified job characteristics, for example insufficient staff numbers, work overload, shift work and lack of autonomy, as the second most stressful factor behind the organisation (Nespereira-Campuzano & Vázquez-Campo, 2017). Similarly, Nel et al. (2013) identified a significant path from job demands to EI and from EI to work wellness. These results suggest that those staff with increased ability to understand or manage their own or others' emotions are better able to cope with their varying working demands, and as a consequence are less likely to develop burnout. This supports the idea that healthcare staff who have increased levels of EI can prevent levels of burnout by supporting staff to manage their job demands better (Rodríguez, 2004). However, it is of note that all included mediation studies are cross-sectional in nature. Hence, they are only able to infer a causal relationship but the temporal order of variables is not present in the analysis therefore it is unclear as to whether the order of the variables should be reversed.

Previous literature has also identified that specific demographic variables such as gender, age, marital status and level of education, have been linked with increased risk of burnout. Five studies failed to comment on the relationship of the possible confounding demographic variables (de Looft et al., 2018; Durán et al, 2004; Hong & Lee, 2016; Nel et al., 2013; Szczygiel & Mikolajczak, 2018) therefore despite the distinct relationship identified between burnout and EI, the strength of this relationship may vary depending upon sample characteristics.

Strengths/Limitations

One key strength was that the current review followed a protocol based on the PRISMA guidelines (Moher et al., 2009). Similarly, the chosen quality assessment tool allowed for literature to be systematically assessed with a validated measure specifically for

cross-sectional designs. It is however noted that there were methodological weaknesses associated with the assessment tool given the limited inter-rater reliability and its limited application within the field and therefore limitations of the conclusions from the review are acknowledged.

The current review enabled the opportunity to report on up-to-date research on the relationship between burnout and EI in healthcare staff and to identify those factors which made it difficult to reach a clear conclusion about this relationship in the 13 reviewed articles. Despite the fact that additional relevant articles may have been identified through the inclusion of grey literature, a decision was taken to only include peer reviewed studies to maximise the overall quality of studies included. Additionally, as part of the search strategy, reference lists from relevant papers were also reviewed which provided some assurance that all available studies at the time of searching had been identified. There were some potential limitations associated with the chosen search strategy. These included the decision to not expand the EI construct to include other similar terms. It was however agreed that due to the broad nature of the construct, limiting the search terms allowed for a more thorough and specific review of the literature. Similarly, a decision was made to search for literature published from 1995. Whilst it is possible that some studies were missed given that the term was initially coined in 1990 (Salovey & Mayer, 1990), it was felt that the term only gained popularity among researchers following the publication of Emotional Intelligence by Daniel Goleman in 1995, which therefore gave a clinical rationale for the current search strategy.

Although the aim of this review was to provide a narrative synthesis, the review may have benefitted from the calculation of a meta-analytic effect size for the relationship between EI and burnout. However, high levels of heterogeneity across the different measures of emotional intelligence and burnout, would have posed considerable problems for

calculating a meta-analytic effect size across scales/sub-scales that tap into a variety of constructs that varied in their degree of conceptual overlap.

A further limitation is the decision to limit the inclusion of studies of cross-sectional design only as such studies can only provide correlations and cannot provide a precise causal relationship between these two facets. Through the inclusion of studies of other methodological designs such as intervention or longitudinal studies, this may have yielded additional relevant articles which were able say with greater certainty whether higher EI causes less burnout, or if burnout impacts on EI as well as provide additional information not obtained through self-report measures alone. Furthermore, the current review was limited to quantitative articles, the inclusion of qualitative or mixed methods articles may have provided a more comprehensive understanding of the relationship between burnout and EI within healthcare professionals.

The review included studies which utilised various measures of burnout and EI based on different theoretical positions, hence limiting the direct comparisons across studies. Despite this, it is argued that those concepts within the different measures of EI have a number of conceptual overlaps and measure facets based on the work by Mayer and Salovey (Mayer & Salovey, 1997). It was felt that by limiting articles to those using particular measures may have biased results, particularly as studies with smaller budgets may not have had funds available for commercially available measures (such as the MBI and TEIQue). Furthermore, the current review identified similar findings between burnout and EI, irrespective of the type of EI and burnout measure used.

Clinical Implications and Suggestions for Future Research

The current review provides evidence that across a range of professional disciplines, staff are reporting a number of factors that are detrimental to working in a care-giving capacity, including a reduced sense of personal effectiveness, increased emotional exhaustion

and a need to depersonalise their relationships with others (Point of Care Foundation, 2017). It is therefore vital that healthcare providers are aware of the perceived level of burnout that their staff are experiencing and understand the possible impact not only on staff wellbeing, but also on their patients and the quality of care they receive.

Given the many negative consequences which have been associated with burnout in healthcare professionals, working to understand the possible antecedents has become an area of interest for the Government and healthcare organisations as a way of developing preventative measures for staff. For example, Health Education England (2019) have developed a report emphasising the negative impact of high levels of emotional labour involved in healthcare roles which has previously been shown to result in increased stress and higher risk of developing burnout (Ashforth & Humphrey, 1993; Morris & Feldman, 1996).

The findings of the current review highlight a number of clinical implications which can be considered from an individual, team and organisational level. Focusing on implications at an individual level, a key finding of the current review was the evidence supporting a negative relationship between burnout and EI among healthcare professionals. Higher levels of EI have been found to impact psychological ownership, burnout symptoms and caring behaviour of health professionals (Kaur, Sambasivan & Kumar, 2013). Attempts to increase EI may therefore prove beneficial for healthcare staff and improve the care they deliver, consistent with a patient centred approach (Adamson, 2013). The findings support the predictive nature of EI subscales of clarity and repair, suggesting that healthcare professionals with reduced abilities in clarifying and repairing their emotional state should be specifically targeted by interventions that seek to improve their emotional strategies for managing work stressors. Similarly, the positive relationship identified between EI subscales and personal accomplishment suggests that individuals' ability to understand, express and appropriately regulate their emotions within a healthcare setting may increase constructive

self-evaluations which are likely to increase feelings of achievement, competence and confidence in their working abilities (Görgens-Ekermans & Brand, 2012). The review also provides implications for the practice of clinical psychologists whom regularly offer clinical supervision across professional disciplines. The review supports the idea that supervisors should adopt a style of supervision that teaches supervisees about the importance of EI capabilities, and that promotes self-reflection in relation to awareness and learning to increase knowledge and innovation and the development of positive therapeutic relationships (Akerjordet & Severinsson, 2010).

The review findings also support the development of intervention at a team level. This may include supporting teams to incorporate awareness of EI skills and abilities as part of group reflective practice or team supervision, to promote wellbeing and reduce workplace related stress. Teams may benefit from sharing of knowledge and resources to minimise the impact of organisation pressures across services and to learn from the positive outcomes of such interventions as well as how to overcome any barriers to implementation.

Further, a review by Public Health England exploring preventative measures of reducing burnout and occupational stress also identified that alongside individual level interventions (such as staff training and workshops), characteristics of the organisational culture and working practices should also be considered when seeking to reduce stressors and factors which may result in burnout (Public Health England, 2016). Further research is recommended to understand which professional and demographic groups are most at risk of burnout so that interventions may be tailored to and targeted towards these specific groups.

Furthermore, based on the findings of these studies, it is proposed here that healthcare organisations may benefit from the inclusion of social and emotional competencies as part of their training to progress the longer-term occupational health and well-being of their staff. Training programmes may increase levels of EI by supporting staff not to ruminate on

negative emotions, to maintain a positive outlook in oneself and others and to be able to effectively manage strong emotions. All of these skills may promote the development of personal and social coping resources among staff and enhance the quality of interpersonal relationships. EI training may be useful to reduce the burnout experienced by healthcare staff, particularly in situations where burnout occurs as a symptom of wider organisational and societal factors that are difficult to address in the current political climate. Further evaluation research will be useful to establish the success of EI training programmes in specific healthcare staff groups to improve staff-wellbeing.

It is, however, noted that due to the nature of the studies included in the current review, the identified recommendations are based solely on a trait perspective of EI. It is recognised that there are other ways to conceptualised EI which may impact the ways in which EI is targeted at an individual, team and organisational level.

The review emphasises the importance of identifying confounding and mediating variables which can contribute to increased risk of burnout in healthcare professionals. In particular, the significance of occupational stress in the relationship between burnout and EI is highlighted. It is important to consider factors such as work environments, workloads, level of job control and limited resources when implementing preventative intervention strategies which may mitigate against both inter and intra-personal factors to successfully reduce and prevent symptoms of burnout. Longitudinal and intervention studies would be useful to establish the casual effects of EI on burnout and whether burnout also has a negative effect on EI. Similarly, future research should address the limitations identified within the current review such as studies which have larger sample sizes which can demonstrate statistical analyses which are adequately powered.

Conclusions

In conclusion, despite extensive research into the two dimensions of burnout and EI, no previous systematic review of the relationship between these two variables within healthcare professionals was identified. The findings of the current review, supports previous literature which have highlighted the importance of identifying those factors that reduce burnout in healthcare staff, specifically through increasing levels of EI. Of the 13 papers included within the review, a fairly consistent negative relationship was identified between the global factors of burnout and EI. The review highlights the need for health organisations to explore ways they can support staff to improve their levels of EI, given the identified impact this can have on reducing levels of burnout. It is suggested that doing so will have a multitude of benefits not only for individual staff members but for wider organisational systems. It is however noted that the nature of the relationship between individual components of burnout and EI is less clear and further research is required to explore the nature and strength of these individual relationships as well as to establish which specific subscales of EI are most significant in the reduction of burnout symptoms. The review also highlights the importance of confounding factors such as occupational stress in mediating and moderating the relationship between burnout and EI. Longitudinal studies may be useful to establish the complex intensity and relationship between these variables as a way of better understanding the determinants of burnout to ensure the well-being of healthcare professionals. A wider approach is required to explore the organisational culture in which healthcare is delivered and to see whether taking an emotionally intelligent approach to work can reduce overall levels of stress and burnout.

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Chapter 2: Empirical Paper

Professional Quality of Life in Forensic Healthcare Staff: The Role of Emotional Intelligence, Emotion Regulation Strategies and Trauma-Related Symptoms¹

¹ This chapter is intended for submission to the Journal of Traumatic Stress, see Appendix 4

Abstract

Aim. The current study examined the relationship of emotional intelligence, emotion regulation strategies and trauma-related symptoms with professional quality of life in forensic healthcare staff.

Methods. In this cross-sectional study, a sample of 100 forensic healthcare staff completed a series of questionnaires comprising of the Professional Quality of Life Scale, the Los Angeles Symptom Checklist, the Trait-Meta Mood Scale, the Emotion Regulation Questionnaire and a personal demographic form.

Results. Self-reported post-traumatic stress symptoms were a significant predictor of professional quality of life, specifically higher levels of burnout and compassion fatigue and lower levels of compassion satisfaction. Emotional clarity, a component of emotional intelligence, was also identified as a significant predictor of lower levels of burnout and compassion fatigue. Emotion regulation strategy did not add any incremental validity to the regression models.

Conclusion. The findings add to existing literature concerning specific relationships among post-traumatic symptoms, emotional intelligence, emotion regulation and professional quality of life. It expands on previous research highlighting that higher post-traumatic symptoms result in reduced compassion satisfaction and increased burnout and compassion fatigue which hold a number of negative consequences for the individual, the organisation and quality of patient care. Further research is required into the interplay between interpersonal and organisational factors in predicting quality of life in this population.

Keywords: professional quality of life, forensic, staff, emotional intelligence, emotion regulation, trauma-symptoms

Introduction

Staff working within healthcare settings are facing increasing pressures and demands within their work environment. The National Health Service (NHS) in the United Kingdom (UK) is coming under increasing pressure and is part of a complex, financially challenged healthcare environment (Point of Care Foundation, 2017). Healthcare organisations are increasingly characterised by a task-focused culture, one which prioritises the evaluation of outcomes and benchmarking in order to provide care at the lowest possible cost and highest levels of proficiency (Maben, 2008). As a result of cuts to funding and poor workforce planning over the last decade, staff are expected to deliver increasingly high standards of care and to work more intensely to protect patient care, whilst under enormous strain and struggling to recruit, train and retain enough staff (Bottery, Evans & Charlesworth, 2019, pp. 117-125). Due to these increasing work demands, work-related stress remains an ongoing challenge for healthcare organisations and affects employee's health and well-being. Work-related stress can result in many adverse consequences for healthcare organisations including increased staff turnover and staff sickness (Sutherland & Cooper, 1990). It is anticipated that reducing the levels of sickness absence could provide an annual saving of £555 million to the NHS (NHS Health and Well-being Review, 2009).

Additionally, work-related stress has been shown to impact the care which is delivered to patients (Laschinger & Leiter, 2006). As a result of impaired job performance, employees with increased levels of work-related stress may be less empathic, collaborative and attentive which may see a reduction in patient satisfaction and increased medical errors (Barnett, Gareis, & Brennan, 1999; Vahey, Aiken, Sloane, Clarke & Vargas, 2004; Fahrenkopf et al., 2008). If healthcare staff experience ongoing and sustained work pressures, and feel unable to provide the quality of care that is expected by patients, this perceived

'moral distress' may increase their sensitivity to occupational burnout (Point of Care Foundation, 2017).

Forensic settings in particular are recognised as stressful and emotionally-challenging environments. Staff in forensic settings are often exposed to disturbing social issues while supporting individuals who display significantly challenging behaviours (Thorpe, Righthand & Kubick, 2010; Sullivan, 1993). The strain of dealing with clients face to face is recognised as one of the most important antecedents of burnout (Maslach, 1982), and staff working within secure psychiatric wards have been shown to report higher emotional exhaustion and depersonalisation when compared with general hospital ward-based colleagues (Sahraian, Fazelzadeh, Mehdizadeh & Toobaee, 2008). Staff working in mental health professions are required to work intensively and intimately with their client group, often over extended periods of time (Mann & Cowburn, 2005). Working within such a context can understandably produce strong emotional responses within the staff and as a result such settings are recognised as stressful work environments. Research suggests that in the UK, 54% of forensic mental health workers report high rates of emotional exhaustion, a key component of occupational burnout (Oddie & Ousley, 2007).

Staff caring for those with mental health difficulties and a forensic history are often exposed to a higher risk of violence, aggression and stress compared to those working across other clinical settings (Mason, 2002). It is suggested that the apparent threat of, and actual violence contributes to higher levels of stress and perceived burnout in those working in such environments (Sullivan, 1993), with costly consequences in terms of staff sickness as well as the physical and psychological impact on staff victims (van Leewen & Harte, 2015). However, it is of note that forensic settings have also been shown to provide some protection against burnout given the strength of professional relationships and the emotional distance between staff and patients in such environments (Abu-Bader, 2000; Lauvrud et al., 2009).

It is hypothesised that the various challenges faced by forensic healthcare staff therefore has a significant impact their overall professional quality of life (ProQoL). ProQoL is a model proposed by Stamm (2010) which consists of both positive and negative aspects which affect the life of professional caregivers. The negative aspect of compassion fatigue is recognised as a relational source of stress that typically signifies more progressive psychological disruptions (Potter et al., 2010). Compassion fatigue is further divided into two factors including burnout, which is recognised as a “prolonged response to chronic emotional and interpersonal stressors on the job” (Maslach, Schaufeli & Leiter, 2001, p. 397) and secondary traumatic stress, which is the result of work-related secondary exposure to those who have suffered from a traumatic event (Itzhaki et al., 2018). There is a tendency for the terms ‘secondary traumatic stress’ and ‘compassion fatigue’ to be used synonymously in the literature, despite arguments that they are in fact phenomenologically different (Meadors, Lamson, Swanson, White & Sira, 2010). The term ‘compassion fatigue’ will be used within this paper as it is viewed as a less stigmatising term to describe the effect of indirect traumatic exposure (Figley, 1995).

Staff caring for psychiatric patients not only experience negative consequences but are also recognised as gaining satisfaction as a result of being able to help others (Stamm, 2002). The positive aspect of ProQoL is identified as compassion satisfaction, which conveys the positive feelings that originate from doing helping work effectively (Stamm, 2005) and has been linked to reduced levels of burnout (Ray, Wong, White & Heaslip, 2013).

Previous research has shown that particular variables serve as either protective or risk factors for burnout, compassion fatigue and compassion satisfaction. In terms of individual demographics, gender has been highlighted as one of the most important variables (Purvanova & Muros, 2010) with research suggesting that female staff have increased awareness of their personal safety and therefore greater levels of burnout (Maslach, Schaufeli

& Leiter, 2001; McCarthy, 1985). Similarly, those staff classified as “lower ranking” staff are viewed as being exposed to higher levels of stress and therefore increased risk of burnout (Cacciacarne, Resnick, McArthur & Althof, 1986). Conversely, years of professional experience is identified as a protective factor for reducing burnout and compassion fatigue (Shen et al., 2015). There are however inconsistencies in the literature on the relationship between participant demographics and burnout, with a number of studies reporting no association (Dillon & Tanner, 1995; Freidman & Farber, 1992; Matin, Kalah & Anvari, 2012).

A history of personal trauma has also been associated with the greater levels of compassion fatigue and burnout (Moore, 2004) and mental health workers in particular have demonstrated higher rates of PTSD symptoms, as a result of regular exposure to incidents of self-harm and physical assaults (MacDonald, Colotla, Flamer & Karlinsky, 2003; Wilstrand, Lindgren, Gilje & Olofsson, 2007). The risk for staff to develop PTSD symptoms following an assault at work is recognised as high (Richter & Berger, 2006), therefore, since forensic services are recognised as having a high degree of violence towards staff, it is anticipated that burnout and symptoms of PTSD are prevalent within this population.

Emotions are recognised as fundamental to clinical practices of healthcare professionals and are intrinsic to influencing professional relationships, decisions about patient care and the intrapersonal impact on healthcare staff (Bulmer Smith, Profetto-McGrath & Cummings, 2009). There are two overlapping research traditions that will be explored as part of the current paper: emotion regulation (ER), and emotional intelligence (EI). ER refers to the ways in which individuals can effectively manage their emotions, while EI focuses on individual’s abilities to monitor and discriminate between their own emotions and those of others.

ER is defined as a process whereby individuals influence the type of emotions they have, when and how they experience them, and how they express those emotions (Gross, 1998). ER skills can be viewed as adaptive coping strategies supporting clinicians who are exposed to high levels of negative emotions in stressful environments (de Zulueta, 2016). Gross (1998) describes two types of ER strategies including those which are antecedent-focused strategies and response-focused strategies. Cognitive reappraisal is an antecedent-focused strategy which relates to an individual's effort to alter the emotional impact of a potentially emotion-eliciting situation. Expressive suppression is a response-focused strategy which relates to the conscious inhibition of an individual's ongoing emotional expressive behaviours (Gross, 1998). Evidence suggests there are stable factors that determine the type of ER strategy an individual will use in various emotion-eliciting situations (Liu, Prati, Perrewe & Brymer, 2010).

There are mixed results for the impact of emotion-focused coping strategies in reducing burnout, with certain research suggesting that emotion-focused coping (such as cognitive reappraisal) is related to lower levels of burnout, where as other research findings suggest that emotion-focused coping is actually related to greater levels of burnout (Shin et al., 2014). However, avoidance coping has consistently been shown to be positively associated with levels of burnout (Payne, 2001) and previous studies of mental health staff have highlighted that stress and the perceived potential for burnout is as a result of staff's denial of their own emotional needs whilst continuing to care for others (McCarthy, 1989).

EI is a progressively researched area that may confer a protective effect in settings where it is important to understand the position of others. EI may be a particularly relevant concept within healthcare work where it is essential for staff to understand patient's perspectives (McQueen, 2004). EI refers to an individuals' competence in identifying, expressing and understanding emotions, incorporating emotions in thought and ability to

reflectively manage positive and negative emotions in self and in others (Salovey & Meyer, 1990). It is suggested that those with higher levels of EI are more likely to be better communicators and have more established interpersonal skills, and that EI plays an important role in the development of social relationships and increased job satisfaction (Lopes, Salovey & Straus, 2003; Sy, Tram & O'Hara, 2006). It is also suggested that healthcare professionals use EI skills to meet the needs of patient care and negotiations within the multidisciplinary team (McQueen, 2004).

It is therefore possible, that those who demonstrate abilities in recognising and understanding their own emotions and those of others, and who are able to attend to emotional self-care, may possess characteristics ideal for working in helping professions. It is argued that those who are more compassionate, caring and resilient and able to attend to their own and others' emotions are more capable of attending to their own needs and those of their clients (Gilbert & Choden, 2014). Through increasing EI, staff may become more productive and successful and the process of EI development contains elements which are identified as reducing stress through the promotion of understanding and relationships, encouraging stability, continuity and harmony (Serrat, 2017).

EI has shown to be related to adaptive coping strategies (Montes-Berges & Augusto 2007), conflict-handling styles (Morrison, 2008) and ethical behaviours in healthcare professionals (Deshpande & Joseph, 2009). Similarly, EI has been found to be associated with the use of more effective emotion-regulation strategies. An association with more effective strategies for emotion regulation may represent a protective factor in supporting staff to effectively reduce the intensity and duration of negative emotions and therefore protect them from the negative consequences of burnout (Peña-Sarrionandia, Mikolajczak & Gross, 2015). Effective management of one's own, and others emotions is vital when thinking about the quality of care provided to patients (Summer & Townsend-Rocchiccioli,

2003) and it is hypothesised that EI may be associated with more positive attitudes and behaviours of healthcare staff. It is recognised that when staff are able to deliver the best quality care to clients, that they experience feelings of satisfaction and enrichment (Bridges et al., 2013).

Both ER and EI traditions of emotion management capture important aspects of coping with positive and negative emotions. Whilst ER has highlighted the basic processes of emotion regulation, in contrast, EI has highlighted the consequences of individual differences in emotion regulation on a variety of more systemic outcomes (e.g. social, health, educational). It is argued that emotion regulation is simultaneously a complex set of abilities which are anchored within the whole emotion process and at the heart of intelligent emotion regulation are skills for understanding emotion, however, such claims have yet to be empirically tested (Wranik, Feldman Barrett & Salovey, 2007). Further research is required to explore the predictive nature of EI and ER strategies on professional quality of life of forensic staff given that the relationship between these variables remains ambiguous (Landa, López-Zafra, Martos & Aguilar-Luzon, 2008).

Current study

Given the multifaceted job roles and responsibilities of healthcare professionals who work within secure inpatient settings, and the increasing demands and challenges of working in this environment, understanding the correlates of burnout, compassion fatigue and compassion satisfaction within this population is increasingly important. Currently, there are few interventions specifically targeting mental healthcare staff (Johnson et al., 2018), yet there is increasing recognition for interventions to be implemented as a means of supporting staff within the NHS to improve outcomes for both staff and patients. As such, the importance of identifying preventative measures to improve professional quality of life in this population is identified.

Exploration of the evidence base suggests that the majority of studies have focused primarily on the external and organisational factors that contribute to the development of burnout. It is noted that interpersonal factors appear to be somewhat underrepresented within the literature (West, Dyrbye, Erwin & Shanafelt, 2016). Most studies exploring burnout in mental health staff have not explored facets of professional quality of life across professional disciplines and have tended to focus on rates of single professional interest groups. The relationship between professional quality of life in forensic healthcare staff and possible protective factors of EI and individual tendencies to use particular ER strategies has yet to be explored (Liu et al., 2010).

The current study therefore aims to provide a positive approach with a focus on understanding which factors contribute to optimal functioning in forensic healthcare staff and to explore which factors may in fact enhance job satisfaction and reduce burnout and fatigue within this population. It was predicted that after adjusting for control variables and self-reported PTSD symptoms, EI (attention, clarity and repair) will predict lower levels of burnout and compassion fatigue, and higher compassion satisfaction. It was also predicted that after adjusting for control variables and self-reported PTSD symptoms, type of ER strategy (expressive suppression and cognitive reappraisal) will predict levels of burnout, compassion fatigue and compassion satisfaction. In particular, that greater use of reappraisal would predict lower levels of burnout and compassion fatigue, and higher compassion satisfaction, with the inverse set of results predicted for expressive suppression.

Method

Design

The study used a cross-sectional online survey, quantitative design.

Participants

NHS clinical staff working across the forensic services from one NHS Trust in the North East of England were recruited online between May 2019 and August 2019. A recruitment e-mail was delivered to all staff who were currently working in a clinical role within the forensic service, and under the NHS Agenda for Change pay system, by an identified gate keeper within the service.

A power analysis was conducted using G*Power 3.1 software for multiple regression. The calculation was based on an alpha of 0.05, power of .80 (Cohen, 1992), and a medium effect size ($f^2 = 0.15$) (Faul, Erdfelder, Buchner & Lang, 2013). Based on a primary outcome measure of ProQoL, and a possible total of seven predictor variables in the model at any given time (gender, job role, years of forensic experience, PTSD symptoms, emotional regulation strategy (cognitive appraisal and expressive suppression) or emotional intelligence (attention, clarity and repair), a total of 103 participants were required. It was, however, decided that only the control variables (gender, job role and years of forensic experience) that were significantly related to the outcome variable would be included in the regression model. In this case, a total of between 85-103 participants would be required, dependent upon the number of control variables included.

A total of 134 potential participants clicked on the link to access the participant information sheet. Two participants did not proceed past this stage of the questionnaire. A total of 32 participants exited the questionnaire after completing only the demographic questionnaire and did not return at a later stage to complete the rest of the measures. Therefore, the total number of participants who completed all study measures and were therefore included in analyses was 100.

A summary of participant demographics can be found in Table 4 below. For reference, the overall number of participants employed by forensic service at the time of recruitment was 629 people and the gender split were 417 female staff and 212 male staff.

Table 4

Summary of Participant Demographics (N=100)

Demographics		N (%)
Age	18-24	5 (5%)
	25-34	32 (32%)
	35-44	29 (29%)
	45-54	21 (21%)
	55-64	13 (13%)
Gender	Male	18 (18%)
	Female	82 (82%)
Job Banding	Bands 1-5	29 (29%)
	Bands 6 and above	71 (71%)
Years of Forensic Experience	Less than 6 months	2 (2%)
	6 months to 1 year	3 (3%)
	1-2 years	6 (6%)
	2-5 years	18 (18%)

5-10 years	35 (35%)
More than 10 years	36 (36%)

Measures

The Professional Quality of Life Scale (ProQoL) (Stamm, 2005) (see Appendix 5).

The ProQoL is a 30 item self-report measure that assesses professional quality of life along three discrete subscales. The first subscale assesses compassion satisfaction and consists of 10 items (e.g. “I get satisfaction from being able to help people”). Compassion satisfaction is defined as the derivation of pleasure as a result of one’s work (helping others). High scores on this subscale are indicative of greater satisfaction related to an individual’s ability to be an effective caregiver, with scores of 33 or higher reflecting professional satisfaction. The second subscale assesses burnout and consists of 10 items (e.g. “I feel worn out because of my work as a helper”). Burnout refers to feelings of hopelessness and difficulties in coping with or doing one’s work effectively. Burnout subscale scores of greater than 22 may indicate burnout or a risk of developing burnout. The third subscale measures compassion fatigue /secondary traumatic stress and consists of ten items (e.g. “Because of my helping, I have felt on edge about various things”). The compassion fatigue subscale scores of greater than 17 may be indicative of compassion fatigue. Participants were asked to indicate, on a 5-point Likert scale (1=never to 5= very often) how often they had experienced each item in the past 30 days in relation to their current work situation. Cronbach’s alphas for each subscale in this sample were as follows: compassion satisfaction $\alpha = .88$, burnout $\alpha = .77$, and secondary traumatic stress $\alpha = .87$.

Los Angeles Symptom Checklist (LASC) (King, King, Leskin & Foy, 1995) (see Appendix 6). The LASC is a 43 item self-report measure used to assess the severity of participants self-reported experience of reexperiencing, avoidance, numbing, and arousal

symptoms as reported in the *Fourth Edition of the Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV). The sum of ratings across all 43 LASC items provides a global assessment of distress and adjustment problems. However, for the purpose of the current study, PTSD symptomology was assessed using the 17-item PTSD subscale by summing responses to the 17 specific items. Participants were asked to indicate how problematic their experience of each item was on a 5-point Likert scale ranging from 0 (not a problem) to 4 (extreme problem). Previous studies have established good reliability (Cronbach's $\alpha = .90$; Foy, Wood, King, King & Resnick, 1995). For the current study, the PTSD subscale of the LASC had a Cronbach's alpha of $\alpha = .95$.

Trait Meta-Mood Scale (TMMS) (Salovey, Mayer, Goldman, Turvey & Palfai, 1995) (see Appendix 7). The TMMS is a 48-item self-report measure of perceived emotional intelligence and explores individuals perceived ability to attend to mood (attention), discriminate among moods (clarity,) and regulate mood (repair). Individuals with higher scores in meta-mood skills have shown to demonstrate increased psychological adjustment and use of more effective coping behaviours (Gohm & Clore, 2002) Sample items from each subscale include: attention – “Feelings give direction to life”; Clarity – “I am rarely confused about how I feel”; Repair – “I try to think good thoughts no matter how badly I feel”. Participants were required to indicate their level of agreement with items on a 5-point Likert scale from “strongly disagree” (1) to “strongly agree” (5). Good internal consistency has been reported for each subscale (Cronbach's alpha = .86, .88 and .82 respectively; Salovey et al, 1995). For the current study, Cronbach's alphas for the subscales were as follows: attention, $\alpha = .86$, clarity $\alpha = .88$, repair $\alpha = .75$.

Emotion Regulation Questionnaire (ERQ) (Gross & John, 2003) (see Appendix 8). The ERQ is a 10-item scale designed to measure respondents' use of two strategies for emotion regulation, cognitive reappraisal and expressive suppression. Cognitive reappraisal is

a cognitive strategy that involves reinterpretation of a potentially emotion-eliciting situation so that the emotional impact of the situation is different (Lazarus & Alfreth, 1964). This subscale includes items such as “When I want to feel a more positive emotion (such as joy or amusement), I change what I’m thinking about”. Expressive suppression is a way of modulating responses by inhibiting emotion-expressive behaviours (Gross, 1998) and includes items such as “I keep my emotions to myself”. Participants were asked to respond on a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). Lower reappraisal scores and higher suppression scores indicate greater problems with emotion regulation. For the current study, Cronbach’s alphas for the subscales were as follows: cognitive reappraisal, $\alpha=.83$ and expressive suppression, $\alpha=.68$.

Demographics Demographic information was obtained by using self-report items that enquired about current service employed in, gender, age, job banding, and years of forensic experience. Job banding was categorised according to the Agenda for Change NHS pay banding for the financial year 2018-2019 (NHS Staff Council, 2019). To help to protect participants anonymity, job banding was identified using a dichotomous variable, bands 1-5 or bands 6 and above. Within the forensic service, job roles in the band 1-5 category include roles such as registered mental health and learning disability nurses, healthcare assistants, occupational therapy assistants, healthcare practitioners and psychology assistants among others. Job roles in the band 6 and above category include deputy ward manager, ward manager, occupational therapist, physiotherapist, speech and language therapist, clinical/forensic psychologists, and modern matrons among others.

Procedure

The study was approved by the University of Liverpool Central University Research Ethics Committee A (application number 4555; see Appendix 9), the Health Research Authority and Health and Care Research Wales (Integrated Research Application System

(IRAS) Number: 255715; see Appendix 10). Capability and Capacity for the research was approved by the Research and Development (R&D) Department of the NHS Trust from which participants were recruited (see Appendix 11). Design and recruitment decisions were taken after considering the British Psychological Society's Ethics Guidelines for Internet-Mediated Research (2017).

The study was advertised only to those clinical staff who worked for the identified NHS forensic service, primarily via the Trust intranet and recruitment e-mails that were circulated by a gate keeper (an administrative member of staff who had access to relevant mailing lists) (see Appendix 12). Clinical staff were defined as those who have current clinical face to face contact with service users and/or families. Posters were also placed around the hospital in locations only accessible to healthcare professionals (see Appendix 13). All adverts contained access to a link to the online survey (hosted by Qualtrics), where participants were provided with a participant information page detailing the study aims and estimated completion time, data protection arrangements, and procedure for withdrawal (see Appendix 14). After viewing this information, participants were invited to provide their informed consent by responding affirmatively to a number of items before being able to proceed with the study. Participants affirm their understanding that because all responses were provided anonymously, it would not be possible to later identify their own responses for the purposes of the study withdrawal.

Once participants had provided informed consent, they were asked to complete the demographic items, before completing the main self-report questionnaires of ProQoL, PTSD symptoms, emotional intelligence and emotion regulation. After each questionnaire, participants were made aware that they could end their participation by choosing "no" when asked if they would like to continue with the study. Participants who chose not to continue with the study would then be taken to the de-brief screen.

Following completion of the study, participants were thanked for their time and invited to submit their e-mail address to enter a prize draw and/or to receive a copy of any reports arising from the study. Debrief information was made available to all participants, and included detailed signposting information to staff support services/employee psychology services, as well as contact details for the research team (see Appendix 15).

All participants who completed the survey were eligible for entry into a prize draw for the chance to win one of two £50 gift vouchers.

Data Analysis Procedure

All data were analysed using Statistical Package for Social Science (IBM SPSS Statistics software version 24.0). There were a number of different stages of data analysis. Firstly, descriptive statistics were computed, including frequencies and percentages for categorical data and means and standard deviations were used for continuous variables. Then tests for normality (Shapiro-Wilk) were conducted and skewness and kurtosis values were consulted to assess normality of data distributions for each subscale.

In order to understand if the outcome measures varied with gender and job banding, independent samples t-tests/non-parametric equivalent Mann-Whitney U tests were used, while correlations were used to understand relationships with years of forensic experience. Pearson's and Spearman's rho correlation coefficients were also conducted to explore the interrelationships between the study measures (compassion fatigue, compassion satisfaction and burnout subscales of the ProQoL, total scores on the LASC, attention, clarity and repair subscales of the TMMS and reappraisal and suppression scores of the ERQ).

Finally, multiple linear regression analyses were undertaken to understand the effects of EI and emotion regulation on self-reported ProQoL. Separate analyses were conducted for each outcome variable: compassion fatigue, compassion satisfaction and burnout. This allowed for further exploration of the relationships of EI and ER with ProQoL, after adjusting

for effects of gender, job banding, years of forensic experience and PTSD symptoms. Where gender, job banding and years of forensic experience significantly related to the outcome variable, they were entered in the first step of the model. Self-reported PTSD symptoms were entered into the second step, while scores on the EI subscales (attention, clarity and repair) and ER subscales (cognitive reappraisal and excessive suppression) were entered in the third step.

Results

A summary of means and standard deviations for the study measures can be found in Table 5 below.

Table 5

Means and Standard Deviations of Key Measures

Measure	<i>M (SD)</i>
ProQoL – Burnout	25.18 (5.46)
ProQoL – Compassion Fatigue	22.55 (6.89)
ProQoL – Compassion Satisfaction	36.68 (6.07)
LASC – PTSD Symptoms	14.55 (12.67)
TMMS - Clarity	37.78 (7.73)
TMMS - Attention	46.50 (8.15)
TMMS - Repair	21.64 (4.20)
ERQ – Cognitive Appraisal	27.84 (6.15)
ERQ – Expressive Suppression	14.41 (4.88)

Note. ProQoL: Professional Quality of Life Scale; LASC: Los Angeles Symptom Checklist; TMMS: Trait Meta-Mood Scale; ERQ: Emotion Regulation Questionnaire

Normality Testing

Normality of data distributions for each measure was assessed using the Shapiro-Wilk Test. Appendix 16 indicates that the variables of compassion satisfaction, burnout, repair, clarity and attention were normally distributed, but, the variables compassion fatigue, PTSD

symptoms, expressive suppression and cognitive reappraisal were not normally distributed. There were no extreme outliers identified therefore no cases were removed from the dataset. Skewness and kurtosis values were also examined for the three outcome variables, and were found to fall within the values -1.96 and 1.96 (Field, 2005). To assess for problems with multicollinearity, the variance inflation factors (VIF) and tolerance statistics were examined. All VIF were lower than 10 and all tolerance values were greater than 0.2 (Myers, 1990), indicating that there were no problems with multicollinearity. Secondly, the assumptions of random distribution of residuals and homoscedasticity were explored from a scatterplot of standardised residuals and standardised predicted values. These investigations found that the assumptions to conduct a hierarchical multiple regression analysis were met.

Correlates of Professional Quality of Life

To determine if there were gender differences between males and females on scores across ProQoL subscales, two Independent Samples *t*-tests were conducted for the subscale of burnout and compassion satisfaction. A Mann-Whitney U test was conducted for the subscale of compassion fatigue. The results are presented in Table 6 below and revealed no statistically significant differences between males and females for any of the subscale scores. As gender demonstrated no impact on the levels of burnout, compassion fatigue or compassion satisfaction, it was not adjusted for in the regression model.

To determine if there were any differences between staff working within bands one to five and those working at bands six and above across scores on the ProQoL subscales, two Independent Samples *t*-tests was conducted for the subscale of burnout and compassion satisfaction. A Mann-Whitney U test was conducted for the subscale of compassion fatigue. The results are presented in Table 6 and revealed that similarly to gender, there were no statistically significant differences between job bands one to five and six and above for any of the ProQoL subscale scores and therefore was not adjusted for in the regression model.

Table 7 shows the results of the correlational analyses. Years of forensic experience was not significantly related to any of the ProQoL subscales and as a result was not adjusted for in the regression model.

To explore the relationship between subscales of the ProQoL measure (burnout, compassion fatigue and compassion satisfaction) and the study variables including self-reported PTSD symptoms, EI and ER strategy, Pearson's correlations were carried out for those variables that were normally distributed and Spearman's rho correlations were conducted for those variables that were not normally distributed (see Table 7). Self-reported PTSD symptoms were found to strongly positively correlate with burnout and compassion fatigue. Conversely, compassion satisfaction was found to be moderately negatively correlated with self-reported PTSD symptoms.

All subscales of EI were found to significantly negatively correlate with the ProQoL subscales of burnout and compassion fatigue and positively with compassion satisfaction.

A significant positive correlation was also identified between the ProQoL subscales of burnout and compassion fatigue and the ER strategy of expressive suppression but not cognitive reappraisal. Furthermore, compassion satisfaction was found to significantly positively correlate with the ER strategy of cognitive reappraisal but not with expressive suppression.

Table 6

Independent Samples T-Tests/Mann Whitney U Tests

	Whole Sample (<i>n</i> =100) <i>M</i>	Whole Sample (<i>n</i> =100) <i>SD</i>	Males (<i>n</i> =18) <i>M</i> (<i>SD</i>)	Females (<i>n</i> =82) <i>M</i> (<i>SD</i>)	<i>t, p</i>	Bands 1-5 (<i>n</i> =29) <i>M</i> (<i>SD</i>)	Bands 6 and above (<i>n</i> =71) <i>M</i> (<i>SD</i>)	<i>t, p</i>
Burnout	25.18	5.46	25.11 (5.41)	25.20 (5.50)	<i>t</i> = -.059, <i>p</i> = .953	25.14 (6.78)	25.20 (4.87)	<i>t</i> = -.049, <i>p</i> = .961
Compassion Satisfaction	36.68	6.07	35.33 (6.38)	36.98 (5.99)	<i>t</i> = -1.040, <i>p</i> = .815	37.31 (6.66)	36.42 (5.84)	<i>t</i> = .662, <i>p</i> = .509

	Whole Sample (<i>n</i> =100) <i>M</i>	Whole Sample (<i>n</i> =100) <i>SD</i>	Males (<i>n</i> =18) Mean Rank	Females (<i>n</i> =82) Mean Rank	<i>U, p</i>	Bands 1-5 (<i>n</i> =29) Mean Rank	Bands 6 and above (<i>n</i> =71) Mean Rank	<i>U, p</i>
Compassion Fatigue	22.55	6.88	51.47	50.29	<i>U</i> = 720.5, <i>p</i> = .875	45.45	52.56	<i>U</i> = 883, <i>p</i> = .265

Table 7*Correlation matrix of main variables*

	1	2	3	4	5	6	7	8	9	10
1. Years Forensic Experience	-									
2. Burnout	.027	-								
3. Compassion Fatigue	-.073	.603**	-							
4. Compassion Satisfaction	-.150	-.630**	-.157	-						
5. Repair	.080	-.478**	-.506**	.333**	-					
6. Attention	.073	-.419**	-.476**	.232**	.476**	-				
7. Clarity	.033	-.519**	-.519**	.242*	.604**	.635**	-			
8. Cognitive Reappraisal	-.023	-.190	-.163	.243*	.374**	.272**	.319**	-		
	-.039	.217*	.250*	-.120	-.225*	-.438**	-.455**	-.084	-	

	1	2	3	4	5	6	7	8	9	10
9. Expressive Suppression										
10. PTSD Symptoms	.024	.665**	.726**	-.302**	-.613**	-.486**	-.512**	-.314**	.228*	-

Note. *Correlation is significant at the 0.05 level (2-tailed)

**Correlation is significant at the 0.01 level (2-tailed). Note: Pearson correlations between burnout, compassion satisfaction, clarity, repair and attention due to being normally distributed. Spearman's Rho correlation for remaining variables compassion fatigue, PTSD symptoms, cognitive reappraisal and expressive suppression, due to being not normally distributed.

Hierarchical Regression Analyses

To examine the effects EI and ER on levels of burnout, compassion fatigue and compassion satisfaction, adjusting for demographic variables (where significant) and PTSD symptoms, a series of hierarchical multiple linear regressions was carried out. For each test, demographic variables that were significantly related to the outcome variable were entered in step one, PTSD symptoms were entered in step two, and EI and ER subscales were entered in step three. All predictors were entered using entry method. The results of all regression analyses are reported in Table 8 and Table 9 below.

Role of Emotional Intelligence

Burnout

A hierarchical multiple regression was conducted to predict levels of burnout, with self-reported PTSD symptoms included in step one. This model accounted for a significant proportion of the variance, $R^2_{adj} = .400$, $F(1, 98)$, 66.879 , $p = .000$. This highlights that as self-reported PTSD symptoms increases so does reported levels of burnout. EI subscale scores (repair, clarity and attention) were entered in step two and the model accounted for a greater proportion of the variance, $R^2_{adj} = .443$, $F(3, 95)$, 3.576 , $p = .017$. The final model accounted for 44.3% of the variance in burnout, with PTSD symptoms and clarity identified as significant predictors in the model. The results suggest that as clarity in discrimination of feelings ability decreases, levels of burnout increases (see Table 8).

Compassion Fatigue

A hierarchical multiple regression was conducted to predict levels of compassion fatigue, with self-reported PTSD symptoms included in step one. This model accounted for a significant proportion of the variance, $R^2_{adj} = .471$, $F(1, 98)$, 89.284 , $p < .000$. This highlights that as self-reported PTSD symptoms increase, so does reported levels of compassion fatigue. EI subscale scores (repair, clarity and attention) were entered in step two and the model

accounted for a greater proportion of the variance, $R^2_{adj} = .518$, $F(3, 95)$, 4.158 , $p=.008$. The final model accounted for 51.8% of the variance in compassion fatigue and PTSD symptoms and clarity were identified as significant predictors. The results suggest that as clarity in discrimination of feelings ability decreases, levels of compassion fatigue increases (see Table 8).

Compassion Satisfaction

A hierarchical multiple regression was conducted to predict levels of compassion satisfaction with self-reported PTSD entered in step one. This model accounted for a significant proportion of the variance, $R^2_{adj} = .091$, $F(1, 98)$, 10.936 , $p= .001$. The results highlight that as self-reported PTSD symptoms increase, level of compassion satisfaction decreases. EI subscale scores (repair, clarity and attention) were entered in step two and this model was non-significant, $R^2_{adj} = .100$, $F(3, 95)$, 5.754 , $p=.268$ (see Table 8).

Role of Emotion Regulation

Burnout

A hierarchical multiple regression was conducted to predict levels of burnout, with self-reported PTSD symptoms included in step one. This model accounted for a significant proportion of the variance, $R^2_{adj} = .400$, $F(1, 98)$, 66.879 , $p=.000$. This highlights that as self-reported PTSD symptoms increases so does reported levels of burnout. ER strategies (cognitive reappraisal and expressive suppression) were entered at step two and this model was non-significant, $R^2_{adj} = .391$, $F(2, 96)$, $.337$, $p=.714$ (see Table 9).

Compassion Fatigue

A hierarchical multiple regression was conducted to predict levels of compassion fatigue, with self-reported PTSD symptoms included in step one. This model accounted for a significant proportion of the variance, $R^2_{adj} = .471$, $F(1, 98)$, 89.284 , $p<.000$, $R^2_{adj} = .471$. This highlights that as self-reported PTSD symptoms increase, so does reported levels of

compassion fatigue. ER strategies (cognitive reappraisal and expressive suppression) were entered at step two and this model was non-significant, $R^2_{adj} = .476$, $F(2, 96)$, 1.425 , $p=.246$ (see Table 9).

Compassion Satisfaction

A hierarchical multiple regression was conducted to predict levels of compassion satisfaction with self-reported PTSD symptoms included in step one. This model accounted for a significant proportion of the variance, $R^2_{adj} = .091$, $F(1, 98)$, 10.936 , $p= .001$. The results highlight that as self-reported PTSD symptoms increase, level of compassion satisfaction decreases. ER strategies (expressive suppression and cognitive reappraisal) were entered in step two and this model was non-significant, $R^2_{adj} = .097$, $F(2, 96)$, 1.340 , $p=.267$ (see Table 9).

Table 8*Predicting Professional Quality of Life from Subscales of Emotional Intelligence*

	Unstandardised B	SE	Standardised β	<i>t</i>	<i>p</i>	95% CI
<u>Burnout</u>						
Step 1						
PTSD Symptoms	.274	.033	.637	8.178	<.001*	.207 - .340
Step 2						
PTSD Symptoms	.208	.041	.484	5.106	<.001*	.127 - .289
Repair	-.046	.135	-.035	-.340	.735	-.313 - .222
Clarity	-.170	.077	-.241	-2.212	.029*	-.323 - -.017
Attention	-.025	.067	-.037	-.375	.708	-.157 - .107
<u>Compassion Fatigue</u>						
Step 1						
PTSD Symptoms	.374	.040	.690	9.449	<.001*	.296 - .453

	Unstandardised B	SE	Standardised β	<i>t</i>	<i>p</i>	95% CI
Step 2						
PTSD Symptoms	.324	.048	.597	6.759	<.001*	.229 - .419
Repair	.104	.158	.063	.658	.512	-.210 - .417
Clarity	-.297	.090	-.333	-3.288	.001*	-.476 - -.118
Attention	.058	.078	.068	.738	.462	-.097 - .213
<u>Compassion Satisfaction</u>						
Step 1						
PTSD Symptoms	-.151	.046	-.317	-3.307	.001*	-.242 - .061
Step 2						
PTSD Symptoms	-.083	.058	-.173	-1.432	.155	-.197 - .032
Repair	.300	.190	.208	1.579	.118	-.077 - .678
Clarity	-.004	.109	-.004	-.032	.974	-.219 - .212
Attention	.044	.094	.060	.473	.637	-.142 - .231

Note. *. Correlation is significant at the 0.05 level (2-tailed). Burnout: $R^2 = .406$ for step one, $R^2 = .466$ for step two; Compassion Fatigue: $R^2 = .477$ for step one, $R^2 = .537$ for step two; Compassion Satisfaction: $R^2 = .100$ for step one, $R^2 = .137$ for step two.

Table 9*Predicting Professional Quality of Life from Subscales of Emotion Regulation*

	Unstandardised B	SE	Standardised β	<i>t</i>	<i>p</i>	95% CI
Burnout						
Step 1						
PTSD Symptoms	.274	.033	.637	8.178	<.001*	.207 - .340
Step 2						
PTSD Symptoms	.268	.036	.624	7.367	<.001*	.196 - .341
Cognitive Reappraisal	.001	.074	.001	.011	.991	-.145 - .147
Expressive Suppression	.074	.090	.066	.814	.418	-.106 - .253
Compassion Fatigue						
Step 1						
PTSD Symptoms	.374	.040	.690	9.449	<.001 *	.296 - .453

	Unstandardised B	SE	Standardised β	<i>t</i>	<i>p</i>	95% CI
Step 2						
PTSD Symptoms	.387	.048	.714	9.087	<.001*	.302 - .472
Cognitive Reappraisal	.124	.086	.111	1.444	.152	-.047 - .296
Expressive Suppression	.073	.106	.051	.687	.494	-.137 - .283
Compassion Satisfaction						
Step 1						
PTSD Symptoms	-.151	.046	-.317	-3.307	.001*	-.242 - -.061
Step 2						
PTSD Symptoms	-.124	.049	-.259	-2.516	.014*	-.222 - -.026
Cognitive Reappraisal	.162	.100	.165	1.629	.107	-.035 - .360
Expressive Suppression	-.044	.122	-.035	-.360	.719	-.287 - .199

Note. *Correlation is significant at the 0.05 level (2-tailed). Burnout: $R^2 = .406$ for step one, $R^2 = .410$ for step two; Compassion Fatigue: $R^2 = .477$ for step one, $R^2 = .492$ for step two; Compassion Satisfaction: $R^2 = .100$ for step one, $R^2 = .125$ for step two.

Discussion

The present study examined the ways in which discrete factors such as gender, job banding, years of work experience, self-reported PTSD symptoms, EI and ER impact on both the positive (compassion satisfaction) and negative components (burnout and compassion fatigue) of professional quality of life of those working in a forensic healthcare setting. The key aims were to explore whether ER strategy as assessed by the Emotion Regulation Questionnaire (Gross & John, 2003) or EI as assessed by the Trait Meta-Mood Scale (Salovey et al., 1995), contributed to higher levels of compassion satisfaction and lower levels of burnout and compassion fatigue, over and above the effects of self-reported PTSD symptoms in this population.

There has been a growing interest in researching professional quality of life with the progression of more validated measurement tools in the context of those working within healthcare professions. Whilst there is a large amount of research which has focused upon burnout in this population, the dimensions of compassion fatigue and compassion satisfaction are relatively new. Such factors are identified as important aspects when considering the negative psychological and physical impact on healthcare professionals and the possible negative consequences for the quality of care delivered to patients (Kaur, Sambasivan & Kumar, 2013).

Professional Quality of Life and Demographic Variables

In this study, healthcare staff's burnout and compassion fatigue were found to be relatively low compared with other recent studies. Scores above 22 for burnout and 17 for compassion fatigue suggest that when at work, people feel less effective in their roles and may feel frightened or unsafe at work (Stamm, 2005). Conversely, levels of compassion satisfaction suggest that those in this sample experience a positive level professional satisfaction from their work. The highest levels of burnout and compassion fatigue and lowest levels of compassion satisfaction were found in participants aged between 18-24 years. These

findings are comparable to other studies showing that younger employees' experience more burnout than their older colleagues (Brewer & Shapard, 2004). Interestingly, Salovey and Mayor (1997) concluded that EI increases with both age and experience which may perhaps in part, explain why younger staff experience greater levels of burnout and compassion fatigue than their older colleagues.

The current study found no significant differences between males and females across the ProQoL dimensions of compassion satisfaction, compassion fatigue and burnout and previous studies have found mixed results when exploring the role of gender on professional quality of life. Whilst some studies have shown gender to be a particularly important predictive factor (Purvanova & Muros, 2010) and suggested that burnout in particular is a more common experience among females (Maslach et al., 2001), results of the current study did not replicate these findings. However, of those studies that have used the ProQoL measure, many also failed to find any significant gender differences (Stamm, 2010).

There were also no significant differences between job banding on the ProQoL dimensions which does not support previous findings showing that those staff who had more direct contact with patients (i.e. those in job bands 1-5 in the current study) had higher levels of burnout (Dyrbye et al., 2017). However, these results may be due to the relatively small sample size of forensic staff and specifically, the group of participants in this band were underrepresented within the sample.

Years of forensic experience also had no impact upon professional quality of life. Whilst these results contradict previous findings which showed years of experience to be a protective factor against burnout (Shen et al., 2015), this is not a consistent finding across studies, with many indicating that professional experience is not in fact associated with professional quality of life (Gleichgerricht & Decety, 2013; Stamm, 2010). The results that demographic variables only minimally contributed to the overall variance in burnout,

compassion fatigue, and compassion satisfaction, also mirrors previous research (Glasberg et al., 2007).

It is also noted that the mean LASC score for this sample was 14.55. To put this in context, previous research has provided mean scores for a number of different populations who would be expected to show high levels of PTSD. For example, the mean LASC scores for a sample of Vietnam war veterans ($M = 49.82$) (Leskin & Foy, 1993), survivors of childhood sexual abuse ($M = 31.18$) (Lawrence, 1992), and psychiatric outpatients ($M = 25.21$) (Hanley, Piersma, King, Larson & Foy, 1992) were considerably greater than those reported in the current sample. However, normative data for LASC scores in the UK general population was not available. The LASC measures symptoms of PTSD on a dimensional basis, and as such, no cut off score for probable PTSD exists, precluding any comparison of the prevalence of PTSD in this sample with that of the general population.

Professional Quality of Life and Psychological Variables

When exploring the role of PTSD, the results across all regression models found that PTSD symptoms were a significant predictor of professional quality of life and was associated with lower levels of compassion satisfaction and higher levels of burnout and compassion fatigue. This suggests that higher levels of PTSD symptoms have negative consequences for staffs' sense of meaning and achievement in their working role. Previous research has also found positive correlations between these variables (Cohen, Leykin, Golan-Hadari & Lahad, 2017) and it is suggested that PTSD symptoms overlap with those of compassion fatigue and burnout (Meadors et al., 2010). Similarly, Voss Horrell, Holohan, Didion & Vance. (2011) suggested that there are similar risk factors relating to patient, professional and organisational characteristics which increase the probability of developing burnout and compassion fatigue and PTSD-like symptoms. The results also support the well-established link between exposure to traumatic events and feelings of emotional exhaustion

and feelings of distress and dissatisfaction within the context of healthcare (Jeon & Ha, 2012; van der Wath, van Wyk & van Rensburg, 2013). A possible explanation for the relationship within this population may be that staff who work in forensic settings are regularly exposed to a number of traumatic incidents such as patients self-harming and physical assaults (MacDonald et al., 2003; Wilstrand et al., 2007) and therefore become somewhat desensitised to these events.

In terms of EI, intercorrelations found that both burnout and compassion fatigue were negatively associated with emotional clarity, repair to moods and attention to moods and compassion satisfaction was found to be positively associated with all three EI dimensions. However, when EI was added to the regression model, after accounting for PTSD symptoms, only a negative effect of 'clarity of feelings' on both burnout and compassion fatigue was identified. Extremera, Rey & Pena (2010) also found that emotional clarity accounted for a significant proportion of burnout and highlights the importance of good intrapersonal clarity as a personal resource to prevent burnout. Furthermore, in a non-systematic review of the literature, Landa et al. (2008) speculated that individuals who experience lower levels of burnout are those with higher levels of emotional clarity and repair. They suggested that whilst those with higher levels of attention to feelings can lead to or maintain low mood due to not being able to respond to them, that those with higher levels of clarity and repair can identify their emotions and respond appropriately to them, meaning that they are able to use effective coping strategies during stressful situations. The results of the current study therefore partially replicate these findings however, it is identified that the work of Landa et al. (2008) was based primarily on teachers across various educational settings.

Intercorrelations revealed that in terms of ER strategy, expressive suppression was positively associated with burnout and compassion fatigue and cognitive reappraisal was positively associated with compassion satisfaction. However, there is a need for some caution

when interpreting these results, with the observed relationships between ER and the ProQoL subscales no longer significant after accounting for PTSD symptoms. This suggests that any relationship between the use of ER strategies and professional quality of life may better reflect traumatic experiences as a general risk factor for problems in regulation emotions and the experience of burnout in stressful working conditions. As such, after adjusting for PTSD symptoms, there was no support for the hypothesis that use of a particular strategy for ER accounts for variance in the ProQoL subscales. The current findings were not able to replicate previous studies which have shown a link ER with different work outcomes. Previous research has suggested that cognitive reappraisal is associated with greater job satisfaction and reduced negative affectivity and the increased use of expressive suppression has been linked to lower satisfaction and quality of life (Côte & Morgan, 2002; Goldin, McRae, Ramel & Gross, 2008). It is however noted that these studies did not control for PTSD symptoms which may explain why they found this relationship and the present study did not. Furthermore, Liu et al. (2010) also found that expressive suppression was not significantly linked to one's emotional state at work suggesting that further research is required to establish a clearer link between ER strategy and dimensions of ProQoL measure.

Limitations

There are a number of limitations of the study which should be noted. Firstly, the use of a cross-sectional design places limits on the ability to infer causal relationships between variables. Further longitudinal research is required, to examine the nature of the relationship between these variables in more detail. The current study also required participants to complete self-report questionnaires and it is important to consider the possible implications of the sociability desirability bias whereby participants attempt to avoid embarrassment and negative consequences of disclosing sensitive information and tend to over report more desirable attributes (Tourangeau & Yan, 2007).

Furthermore, due to issues of anonymity and confidentiality, the decision was made to include only those staff employed under the Agenda for Change system. Whilst this was done to reduce the risk of results being identifiable, this meant that a large number of medical health care staff were therefore excluded from the research. The inclusion of medical staff may have yielded additional interesting results.

Despite the fact that participants were recruited from a variety of professional groups across the secure service, the data collected was gathered from only one clinical site and although we met statistical power, the sample size was fairly small. Additionally, the majority of participants were female staff working in bands 6 and above. Based on these limitations, we urge some caution in generalising these results to other samples and healthcare populations. It is hypothesised that due to the front-line nature of those staff working within bands 1-5, that they may have had additional strain on their time in order to participate and the results may not accurately represent those staff who have more face to face client contact as part of their clinical role. Structural barriers to participation are therefore identified meaning that those staff who had less control of their own clinical time were more restricted in their ability to participate. In an attempt to overcome such barriers, future research should consider the use of paper surveys or face to face appointments to collect data to ensure inclusion of a wider range of clinical staff.

It was also observed that there were lower levels of burnout and compassion fatigue and higher compassion satisfaction levels identified within this sample than was initially expected. The unexpected nature of these findings might suggest that factors also contribute to the professional quality of life of this population. Despite the fact that forensic services can prove emotionally challenging and stressful, such settings have also been shown to provide some protection against burnout. This may be as a result of staff having a greater involvement in decision-making and increased support from colleagues as well as being considered more

therapeutically enabling environments (Happell, Pinikhana & Martin, 2003; Laschinger, Wong & Greco, 2006). These factors may, in part, explain lower levels of burnout and higher levels of compassion satisfaction within this population.

Other methodological limitations include the study response rate of 21%. Low response rate for most web surveys estimated to be lower than 11% when compared to other survey models (Fan & Yan, 2010). Therefore, in relative comparison, the current study's response rate is less concerning. Further, there were limitations on the numerical data collected within the current study and it may have been beneficial to triangulate findings through a qualitative approach to provide a richer level of detail to the findings by collecting information about staffs' experiences.

Clinical Implications and Future Research

A forensic work environment is of particular interest in this context given that it is acknowledged that staff are often exposed to disturbing social issues and managing clients with extreme challenging behaviours (Thorpe et al., 2010; Sullivan, 1993). The findings from the current study suggest that self-reported PTSD symptoms predicted higher levels of burnout and compassion fatigue and lower levels of compassion satisfaction, all of which raise questions about the effectiveness of current staff training and support in working to improve quality of life in this population.

Previous research has demonstrated that specific interventions can result in a reduction of burnout symptoms and can improve well-being in forensic staff. The development of future intervention and staff training may focus on the development of EI skills, specifically around emotional clarity and supporting staff to have a greater understanding of how they feel. This, in turn, may reduce levels of burnout and compassion fatigue and increase feelings of compassion satisfaction at work. Such findings support recommendations that forensic services should be providing their staff with systems which

foster an open and honest culture to ensure staff feel supported to openly express their feelings about work and learn ways to manage their frustrations more effectively. Similarly, given the findings that those in the youngest age bracket of 18-24 years demonstrated greater levels of burnout and compassion fatigue, this suggests that this specific group of staff may benefit most from such tailored intervention programmes. Future research should consider how best to develop and tailor these interventions for this specific population, and through the use of rigorous outcome studies to investigate the therapeutic utility of these interventions.

Given the broad range of tools used to measure EI, it will be important to determine whether EI is a fixed characteristic or dynamic ability as this will determine the type of training that may be beneficial. There is a need for a more systematic exploration of the role of EI in healthcare to improve current understanding of its benefits to clinical practice and possibility of improved outcomes for patients within the current high pressured and challenging landscape of healthcare organisations.

Moreover, the current study showed that was emotion regulation strategy was unrelated to professional quality of life in this population, after adjusting for PTSD symptoms. Previous research has shown that staff should be supported to cognitively reappraise any unpleasant emotions they experience as opposed to suppressing them, as it has been found to reduce negative emotions and development of positive emotions can increase work satisfaction and reduce traumatic stress in healthcare staff (Măirean, 2015). Further research is therefore suggested to explore the relationship between these two facets in greater detail, and to ascertain whether this is an effective strategy to reduce burnout and compassion fatigue and increase compassion satisfaction in healthcare staff before organisations employ resources into the development of interventions.

The results of this study are important to healthcare systems as they indicate an increased need to educate, recruit and retain effective leaders and managers. EI is recognised as a skill that can be taught and improved and has been shown to be a predictor of leadership and management success (Tyczkowski et al., 2015). It is therefore suggested that EI is considered as part of recruitment processes in recruiting the strongest applicants into leadership roles as those staff high in EI are said to bring out the best in the organisation, drive emotions in a positive way as well as connect with others in more meaningful and emotional ways (Goleman, Boytazis & Mckee, 2002).

Finally, the current study focused primarily on interpersonal factors impacting upon professional quality of life. It is recognised that systemic pressures are also likely to impact the quality of life experienced by healthcare professionals and consequently, the quality of care delivered to patients. Whilst it is recognised that healthcare staff strive to respond emotionally to their patients, if they are unable to deliver good quality care given the increasingly high work demands, they may experience guilt, regret and frustration and may be less likely to emotionally engage with patients (Bridges et al., 2013). It is therefore highlighted that future research should also focus upon the interplay between the internal and external factors that combine to predict professional quality of life within a forensic staff population. The current study also highlights the need for further organisational research to implement and evaluate the benefits of EI training to support this.

Conclusion

This study explored professional quality of life and the role of PTSD symptoms, EI and emotion regulation in forensic healthcare staff. Despite the limitations of the current study, the findings add to existing literature concerning specific relationships among PTSD symptoms, EI, emotion regulation and the dimensions of ProQoL. It expands on previous research highlighting that higher self-reported PTSD symptoms result in reduced compassion

satisfaction and increased burnout and compassion fatigue which hold a number of negative consequences for the individual, the organisation and quality of patient care (Hamer, Batty, & Kivimaki 2012; Boyle, 2011; Coetzee & Klopper, 2010). Additionally, it adds to previous findings which suggests that EI, specifically clarity of feelings, may represent a target for future interventions that aim to reduce burnout and compassion fatigue in a forensic healthcare population.

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Appendix 1

Systematic Review Protocol

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Health Research

UNIVERSITY of York
Centre for Reviews and Dissemination

Systematic review

1. * Review title.

Give the working title of the review, for example the one used for obtaining funding. Ideally the title should state succinctly the interventions or exposures being reviewed and the associated health or social problems. Where appropriate, the title should use the PI(E)COS structure to contain information on the Participants, Intervention (or Exposure) and Comparison groups, the Outcomes to be measured and Study designs to be included.

Emotional intelligence and burnout in healthcare professionals: a systematic review

2. Original language title.

For reviews in languages other than English, this field should be used to enter the title in the language of the review. This will be displayed together with the English language title.

3. * Anticipated or actual start date.

Give the date when the systematic review commenced, or is expected to commence.

28/07/2019

4. * Anticipated completion date.

Give the date by which the review is expected to be completed.

03/02/2020

5. * Stage of review at time of this submission.

Indicate the stage of progress of the review by ticking the relevant Started and Completed boxes. Additional information may be added in the free text box provided.

Please note: Reviews that have progressed beyond the point of completing data extraction at the time of initial registration are not eligible for inclusion in PROSPERO. Should evidence of incorrect status and/or completion date being supplied at the time of submission come to light, the content of the PROSPERO record will be removed leaving only the title and named contact details and a statement that inaccuracies in the stage of the review date had been identified.

This field should be updated when any amendments are made to a published record and on completion and publication of the review. If this field was pre-populated from the initial screening questions then you are not able to edit it until the record is published.

The review has not yet started: No

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Review stage	Started	Completed
Preliminary searches	Yes	No
Piloting of the study selection process	Yes	No
Formal screening of search results against eligibility criteria	Yes	No
Data extraction	No	No
Risk of bias (quality) assessment	No	No
Data analysis	No	No

Provide any other relevant information about the stage of the review here (e.g. Funded proposal, protocol not yet finalised).

6. * Named contact.

The named contact acts as the guarantor for the accuracy of the information presented in the register record.

Annaliese Jowsey

Email salutation (e.g. "Dr Smith" or "Joanne") for correspondence:

Annaliese

7. * Named contact email.

Give the electronic mail address of the named contact.

annaliese.jowsey@liverpool.ac.uk

8. Named contact address

Give the full postal address for the named contact.

Doctorate in Clinical Psychology

Whelan Building

University of Liverpool

Brownlow Hill

Liverpool

L69 3GB

9. Named contact phone number.

Give the telephone number for the named contact, including international dialling code.

0151 7945530

10. * Organisational affiliation of the review.

Full title of the organisational affiliations for this review and website address if available. This field may be completed as 'None' if the review is not affiliated to any organisation.

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University of Liverpool

Organisation web address:

www.liverpool.ac.uk

11. * Review team members and their organisational affiliations.

Give the personal details and the organisational affiliations of each member of the review team. Affiliation refers to groups or organisations to which review team members belong. **NOTE: email and country are now mandatory fields for each person.**

Dr Steven Gillespie. University of Liverpool

Dr Rachel Collinson. Tees, Esk & Wear Valleys NHS Foundation Trust

12. * Funding sources/sponsors.

Give details of the individuals, organizations, groups or other legal entities who take responsibility for initiating, managing, sponsoring and/or financing the review. Include any unique identification numbers assigned to the review by the individuals or bodies listed.

University of Liverpool

Grant number(s)

13. * Conflicts of interest.

List any conditions that could lead to actual or perceived undue influence on judgements concerning the main topic investigated in the review.

None

None known.

14. Collaborators.

Give the name and affiliation of any individuals or organisations who are working on the review but who are not listed as review team members. **NOTE: email and country are now mandatory fields for each person.**

15. * Review question.

State the question(s) to be addressed by the review, clearly and precisely. Review questions may be specific or broad. It may be appropriate to break very broad questions down into a series of related more specific questions. Questions may be framed or refined using PI(E)COS where relevant.

Do levels of emotional intelligence have a relationship with burnout in healthcare professionals?

16. * Searches.

State the sources that will be searched. Give the search dates, and any restrictions (e.g. language or publication period). Do NOT enter the full search strategy (it may be provided as a link or attachment.)

Five databases will be searched: PsycINFO, CINAHL Plus, MEDLINE, Web of Science and PubMed.

The search terms that will be used are 'Burnout' OR 'Burn-out' OR "Burn out" AND "Emotional Intelligence" AND "Health Professionals" OR Physician OR Practitioner OR Clinician OR Nurs* OR Midwife OR "Health Worker" OR "Nursing Assistant" OR Dentist OR Pharmacist OR Dietician OR Physiotherapist OR

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Cardiologist OR Surgeon OR Gynaecologist OR Ophthalmologist OR Psychiatrist OR Optician OR
Psycholog* OR Therap* OR Social Work*

There will be no restrictions for publication date and papers not written in English language will be excluded.

Research that has not been published within a peer reviewed journal will be included.

17. URL to search strategy.

Give a link to a published pdf/word document detailing either the search strategy or an example of a search strategy for a specific database if available (including the keywords that will be used in the search strategies), or upload your search strategy. Do NOT provide links to your search results.

Alternatively, upload your search strategy to CRD in pdf format. Please note that by doing so you are consenting to the file being made publicly accessible.

Do not make this file publicly available until the review is complete

18. * Condition or domain being studied.

Give a short description of the disease, condition or healthcare domain being studied. This could include health and wellbeing outcomes.

Levels of emotional intelligence in healthcare staff are being studied in relation to burnout. Emotional intelligence is recognised as an individuals self-perceived ability to identify, assess and manage one's own emotion as well as the emotions of others (Seratt, 2017). Burnout has been defined as a state of emotional, mental and physical exhaustion caused by excessive and prolonged emotional stress (Freudenberger, 1981).

19. * Participants/population.

Give summary criteria for the participants or populations being studied by the review. The preferred format includes details of both inclusion and exclusion criteria.

The population being studied include healthcare professionals. No healthcare population will be excluded, however any studies which include participants from outside of healthcare (even if healthcare professionals are also included) will be excluded from the review. Papers not written in English will be excluded. Papers with participants from any country will be included.

20. * Intervention(s), exposure(s).

Give full and clear descriptions or definitions of the nature of the interventions or the exposures to be reviewed.

Not applicable.

21. * Comparator(s)/control.

Where relevant, give details of the alternatives against which the main subject/topic of the review will be

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compared (e.g. another intervention or a non-exposed control group). The preferred format includes details of both inclusion and exclusion criteria.

Not applicable.

22. * Types of study to be included.

Give details of the types of study (study designs) eligible for inclusion in the review. If there are no restrictions on the types of study design eligible for inclusion, or certain study types are excluded, this should be stated. The preferred format includes details of both inclusion and exclusion criteria.

Cross-sectional and correlational studies will be included. Qualitative, intervention studies will be excluded.

23. Context.

Give summary details of the setting and other relevant characteristics which help define the inclusion or exclusion criteria.

Burnout is recognised as an extreme case of chronic and prolonged stress (Maslach & Goldberg, 1998) and it is well documented that those working in healthcare roles are more vulnerable to high degrees of burnout (Coffey & Coleman 2001, Kowalski et al. 2010). Increased levels of burnout have been associated with higher staff turnover (Jenkins & Elliot 2004), increased sick leave, and reduced productivity and efficiency, which can result in the deterioration of quality health care for patients accessing services (Barnett et al. 1999). Emotional intelligence refers to an individuals' competence in identifying, expressing and understanding emotions, incorporating emotions in thought and ability to reflectively regulate positive and negative emotions in self and in others (Salovey & Meyer, 1990). It is argued that emotional intelligence has associations with adaptive coping strategies (Montes-Berges & Augusto 2007), conflict-handling styles (Morrison 2008) and ethical behaviours in healthcare professionals (Deshpande & Joseph 2009). It has been suggested within the literature that emotional intelligence may be a protective factor against the negative impact of burnout in healthcare staff however this has yet to be systematically reviewed. For the current review, studies must include validated measures of both burnout and emotional intelligence to be included.

24. * Main outcome(s).

Give the pre-specified main (most important) outcomes of the review, including details of how the outcome is defined and measured and when these measurement are made, if these are part of the review inclusion criteria.

To establish whether higher levels of emotional intelligence are related to lower levels of burnout within healthcare professionals. It will be important to establish whether there is consistency across the literature and to identify which factors may account for the variability between studies.

*** Measures of effect**

Please specify the effect measure(s) for you main outcome(s) e.g. relative risks, odds ratios, risk difference, and/or 'number needed to treat.

Not applicable.

25. * Additional outcome(s).

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List the pre-specified additional outcomes of the review, with a similar level of detail to that required for main outcomes. Where there are no additional outcomes please state 'None' or 'Not applicable' as appropriate to the review

None.

*** Measures of effect**

Please specify the effect measure(s) for you additional outcome(s) e.g. relative risks, odds ratios, risk difference, and/or 'number needed to treat.

Not applicable.

26. * Data extraction (selection and coding).

Describe how studies will be selected for inclusion. State what data will be extracted or obtained. State how this will be done and recorded.

The inclusion and exclusion criteria will be generated through preliminary scoping searches of the literature and will be verified by research supervisors. The process of identifying and selecting papers included in this review will be reported using the Preferred Reporting Items for Systematic Reviews (PRISMA) diagram.

Studies will be required to meet the following criteria to be included within the review: a) quantitative analysis b) cross-sectional design, c) include participants from a healthcare setting aged 18 years and above, d) papers published in English where the full text was accessible and e) studies which utilise validated measures of burnout and emotional intelligence. No restrictions will be placed on publication format (e.g. journal article, thesis) and there will be no limitations with regards to publication date.

Data relating to the study characteristics will be extracted including author, year, study design, healthcare setting, burnout measure and emotional intelligence measure. Data relating to participant information will also be extracted including number of participants, profession, gender, age (mean and range). In the data relating to the relationship between emotional intelligence and burnout, key statistical values relating to the tests undertaken and significance values will also be extracted. All references generated in the search will be transferred into a reference management software. One researcher will screen titles and abstracts for suitability and duplicate studies will be excluded. All remaining articles will be read by two researchers and where there is a disagreement, a third researcher will be consulted as a means of resolving the disagreement. Further searches will be carried out by checking the reference list of all included articles.

27. * Risk of bias (quality) assessment.

Describe the method of assessing risk of bias or quality assessment. State which characteristics of the studies will be assessed and any formal risk of bias tools that will be used.

The Agency for Healthcare Research and Quality Tool (Williams, Plassman, Burke, Holsinger & Benjamin, 2010) which has been designed specifically for cross-sectional studies will be used as a way of assessing

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the methodological quality in the included papers. Categories assessed include whether there is an unbiased selection of the cohort, sample size, an adequate description of the cohort, use of validated measures, an appropriate analytic methodology and controls of any confounding variables. The tool assesses studies based on four ratings: yes, partially, no or cannot tell. Two authors will undertake the quality of reviews and disagreements will be resolved by discussion with a third author.

28. * Strategy for data synthesis.

Provide details of the planned synthesis including a rationale for the methods selected. This **must not be generic text** but should be **specific to your review** and describe how the proposed analysis will be applied to your data.

The present review aims to summarise and synthesise findings from studies of the relationship between emotional intelligence and burnout, in health care professionals.

It is hoped that for the purpose of the current review a minimum of 10 articles will be included within the review. It is anticipated that we will use a narrative (descriptive) approach to data synthesis of the findings. The descriptive results will be obtained by compiling the information of each study in the form of tables. As a consequence, it will be useful to obtain a better basis for discussion, for the methods (study design, gender, age, professional group, healthcare setting, instrument of evaluation of emotional intelligence and burnout), results and studies of selected studies. Thus, it is possible to identify the presence of a probable clinical heterogeneity between the studies.

Two reviewers will independently assess the results and disagreements will be resolved by discussion, with involvement of a third reviewer when necessary.

29. * Analysis of subgroups or subsets.

State any planned investigation of 'subgroups'. Be clear and specific about which type of study or participant will be included in each group or covariate investigated. State the planned analytic approach.

If the systematic review identifies an adequate amount of papers, a sub-group of mental health professionals will also be reviewed.

30. * Type and method of review.

Select the type of review and the review method from the lists below. Select the health area(s) of interest for your review.

Type of review

Cost effectiveness
No

Diagnostic
No

Epidemiologic
No

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Individual patient data (IPD) meta-analysis

No

Intervention

No

Meta-analysis

No

Methodology

No

Narrative synthesis

Yes

Network meta-analysis

No

Pre-clinical

No

Prevention

No

Prognostic

No

Prospective meta-analysis (PMA)

No

Review of reviews

No

Service delivery

No

Synthesis of qualitative studies

No

Systematic review

Yes

Other

No

Health area of the review

Alcohol/substance misuse/abuse

No

Blood and immune system

No

Cancer

No

Cardiovascular

No

Care of the elderly

No

Child health

No

Complementary therapies

No

Crime and justice

No

Dental

No

Digestive system

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No
 Ear, nose and throat
 No
 Education
 No
 Endocrine and metabolic disorders
 No
 Eye disorders
 No
 General interest
 No
 Genetics
 No
 Health inequalities/health equity
 No
 Infections and infestations
 No
 International development
 No
 Mental health and behavioural conditions
 Yes
 Musculoskeletal
 No
 Neurological
 No
 Nursing
 No
 Obstetrics and gynaecology
 No
 Oral health
 No
 Palliative care
 No
 Perioperative care
 No
 Physiotherapy
 No
 Pregnancy and childbirth
 No
 Public health (including social determinants of health)
 No
 Rehabilitation
 No
 Respiratory disorders
 No
 Service delivery
 No
 Skin disorders
 No
 Social care
 No

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Surgery

No

Tropical Medicine

No

Urological

No

Wounds, injuries and accidents

No

Violence and abuse

No

31. Language.

Select each language individually to add it to the list below, use the bin icon to remove any added in error.

English

There is not an English language summary

32. * Country.

Select the country in which the review is being carried out from the drop down list. For multi-national collaborations select all the countries involved.

England

33. Other registration details.

Give the name of any organisation where the systematic review title or protocol is registered (such as with The Campbell Collaboration, or The Joanna Briggs Institute) together with any unique identification number assigned. (N.B. Registration details for Cochrane protocols will be automatically entered). If extracted data will be stored and made available through a repository such as the Systematic Review Data Repository (SRDR), details and a link should be included here. If none, leave blank.

34. Reference and/or URL for published protocol.

Give the citation and link for the published protocol, if there is one

Give the link to the published protocol.

Alternatively, upload your published protocol to CRD in pdf format. Please note that by doing so you are consenting to the file being made publicly accessible.

No I do not make this file publicly available until the review is complete

Please note that the information required in the PROSPERO registration form must be completed in full even if access to a protocol is given.

35. Dissemination plans.

Give brief details of plans for communicating essential messages from the review to the appropriate audiences.

The systematic review will be written up as part of the primary researcher (Annaliese Jowsey)'s thesis in partial fulfilment of the qualification of the Doctorate in Clinical Psychology. It is also planned to submit the systematic review to appropriate academic journals on completion.

Do you intend to publish the review on completion?

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Yes

36. Keywords.

Give words or phrases that best describe the review. Separate keywords with a semicolon or new line. Keywords will help users find the review in the Register (the words do not appear in the public record but are included in searches). Be as specific and precise as possible. Avoid acronyms and abbreviations unless these are in wide use.

Artificial Intelligence

Healthcare Professionals

Staff

Staff Wellbeing

37. Details of any existing review of the same topic by the same authors.

Give details of earlier versions of the systematic review if an update of an existing review is being registered, including full bibliographic reference if possible.

38. * Current review status.

Review status should be updated when the review is completed and when it is published. For newregistrations the review must be Ongoing. Please provide anticipated publication date

Review_Ongoing

39. Any additional information.

Provide any other information the review team feel is relevant to the registration of the review.

40. Details of final report/publication(s).

This field should be left empty until details of the completed review are available.

Give the link to the published review.

Appendix 2

Rationale for Choice of Quality Assessment Tool

A number of quality assessment tools were considered for use in the current systematic review. These included the following: Newcastle Ottawa-Scale (NOS) adapted for cross-sectional studies (adapted from Newcastle-Ottawa Quality Assessment Scale for cohort studies, Effective Public Health Practice Project (EPHPP) Quality Assessment Tool for Quantitative Studies (Thomas, Ciliska, Dobbins & Micucci, 2004), National Institute of Health (NIH) Quality assessment tool for observational, cohort and cross-sectional studies (National Institutes of Health [NIH], 2014), The Agency for Healthcare Research and Quality Tool (Williams, Plassman, Burke, Holsinger & Benjamin, 2010) and Appraisal Tool for Cross-Sectional Studies ([AXIS], Downes, Brennan, Williams Dean, 2016).

Both the EPHPP and NIH tools did not focus solely on looking at cross-sectional studies and therefore a number of items were not appropriate to the current review and these tools were rejected. The NOS for cross-sectional studies was identified as using a scale as a method of quality assessment has found to have many limitations, particularly when evaluating cross-sectional studies (Luchini, Stubbs, Solmi & Veronese, 2017).

The remaining two tools were then compared in terms of their methodological strength. Whilst both tools utilised checklists, The Agency for Healthcare Research and Quality Tool was noted to have no published data on development on the tool, required items to be omitted which were not relevant and did not have any reported reliability or validity data. The AXIS was also a checklist, was a much shorter measure and had published information on the development of the tool (Downes, Brennan, Williams, & Dean, 2016).

Appendix 3

Appraisal of Cross-Sectional Studies (AXIS)

Appraisal of Cross-sectional Studies

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

Appendix 4

Information on the Journal of Traumatic Stress

Author Guidelines

1. Online Submissions: The *Journal of Traumatic Stress* accepts submission of manuscripts online at:

<http://mc.manuscriptcentral.com/jots>

Information about how to create an account or submit a manuscript may be found online on the Manuscript Central homepage in the "User Tutorials" section or, on the Author Dashboard, via the "Help" menu in the upper right corner of the screen. Personal assistance also is available by calling 434-964-4100.

2. Article Formats: Three article formats are accepted for consideration by JTS. All page counts should include references, tables, and figures. *Regular articles* (30 pages maximum, inclusive of all text, abstract, references, tables, and figures) include research studies, quantitative systematic reviews, and theoretical articles. Purely descriptive articles or narrative-based literature reviews are rarely accepted. In extraordinary circumstances, the editors may consider longer manuscripts that describe highly complex designs or statistical procedures but authors should seek approval prior to submitting manuscripts longer than 30 pages. *Brief reports* (18 pages maximum) are appropriate for pilot studies or uncontrolled trials of an intervention, preliminary data on a new problem or population, condensed findings from a study that does not merit a full article, or methodologically oriented papers that replicate findings in new populations or report preliminary data on new instruments. *Commentaries* (1,000 words or less) involve responses to previously published JTS Response commentaries, submitted no later than 8 weeks after the original article is published (12 weeks if outside the U.S.), must be content-directed and use tactful language. The original author is given the opportunity to respond to accepted commentaries.

3. Double-Blind Review: As of January 1, 2017, the Journal of Traumatic Stress utilizes a double-blind review process in which reviewers receive manuscripts with no authors' names or affiliations listed in order to ensure unbiased review. To facilitate blinded review, the title page should be uploaded as a separate document from the body of the manuscript, identified as "Title Page," and should include the title of the article, the running head (maximum 50 characters) in uppercase flush left, author(s) byline and institutional affiliation, and author note (see pp. 30-37 of the APA 7th manual). Within the main body of the manuscript, tables, and figures, authors should ensure that any identifying information (i.e., author names, affiliations, institutions where the work was performed, university whose ethics committee approved the project) is blinded; a simple way to accomplish this is by replacing the identifying text with the phrase "[edited out for blind review]". In addition, language should be used that avoids revealing the identity of the authors; e.g., rather than stating, "In other research by our lab (Bennett & Kerig, 2014), we found ..." use phrases such as, "In a previous study, Bennett and Kerig (2014) found ..." Please note that if you have uploaded the files correctly, you will **not** be able to view the title page in the PDF and HTML proofs of your manuscript; however, the Editor and JTS editorial office staff can view this information.

4. Preferred and Non-Preferred Reviewers: During the submission process, authors may suggest the names of preferred reviewers; authors also may request that specific individuals not be selected as reviewers.

5. Publication Style: JTS follows the style recommendations of the 2020 *Publication Manual of the American Psychological Association* (APA; 7th edition) and submitted manuscripts must conform to these formatting guidelines. Manuscripts should use non-sexist language. Manuscripts must be formatted using letter or A4 page size, with 1 inch (2.54 cm) margins on all sides, in an APA-approved font (i.e., 10-point Lucinda Sans Unicode or Computer Modern; 11-point Arial, Calibri, or Georgia; 12-point Times New Roman). All text within figures should be formatted in a sans serif font (e.g., Arial or Calibri) with a type size between 8 and 14 points. The title page, abstract, references, table title and notes, and figure title and notes should be double-spaced; text within tables and figures can be single or double spaced based on the layout of the information. Submit your manuscript in .doc or .docx format, **not as a PDF**.

For assistance with APA style, in addition to consulting the manual itself, please note these helpful online sources that are freely available: <https://apastyle.apa.org/style-grammar-guidelines/index> and <https://owl.english.purdue.edu/owl/section/2/10/>

6. APA and JTS Style Pointers: In addition to consulting the APA 7th edition Publication Manual, the resources indexed above, and the JTS Style Sheet posted online, please consider these pointers when formatting each section of the manuscript:

1. **Tense:** Throughout the manuscript, please use past tense for everything that has already happened, including the collection and analyses of the data being reported.
2. **Abstract:** The Main Document of the manuscript should begin with an abstract no longer than 250 words, placed on a separate page. In addition, JTS house style requires the reporting of an effect size for each finding discussed in the abstract; if there are many findings, present the range.
3. **Participants:** Please include in this subsection of the Method section information on sample characteristics, subsample comparisons, and analyses that describe the sample but are not focused on testing the hypotheses that are the aims of your manuscript.
4. **Procedure:** Please describe the procedure in sufficient detail so that it could be comprehended and replicated by another investigator. Identify by name the IRB or ethics committee (edited out for blind review in the submitted manuscript) that approved the research, and the manner in which consent was obtained.
5. **Measures:** In addition to providing citations, psychometric, and validation data for each measure administered, please provide coefficient alpha from your data for each measure for which this is appropriate.
6. **Data Analysis:** Include a separate subsection with this header in the Method section in which you describe the analyses performed, the software program(s) used, and make an explicit statement about missing data in your data set. If there are no missing data, so state; otherwise describe the extent of missing data and how they were handled in the data analyses.
7. **Results (and throughout):** Present percentages to 1 decimal place, means and *SDs* to 2 decimal places, and exact *p* values to 3 decimal places except for any $< .001$. Include leading zeros (e.g., 0.92) when reporting any statistic that can be greater than 1.00 (or less than -1.00). For example, there is no leading zero used when reporting correlations, coefficient alphas, standardized betas, *p* values, or fit indices (e.g., $r = .47$, not 0.47). Report effect sizes for analyses conducted wherever possible and appropriate.
8. **References:** Format the references using APA 7th edition style: (a) begin the reference list on a new page following the text, (b) double-space, (c) use hanging indent format, (d) italicize the journal name or book title, and (e) list alphabetically by last name of first author. If a reference has a Digital Object Identifier (doi), it must be included as the last element of the reference

- **Journal Article:**

Grady, J. S., Her, M., Moreno, G., Perez, C., & Yelinek, J. (2019). Emotions in storybooks: A comparison of storybooks that represent ethnic and racial groups in the United States? *Psychology of Popular Media Culture*, 8(3), 207–217. <https://doi.org/10.1037/ppm0000185>

- **Book:**

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Erlbaum.

- **Book Chapter:**

Meehl, P. E. (2006). The power of quantitative thinking. In N. G. Waller, L. J. Yonce, W. M. Grove, D. Faust, & M. F. Lenzenweger (Eds.), *Essays on the practice of scientific psychology* (pp. 433–444). Erlbaum.

Footnotes: Footnotes should be avoided. When their use is absolutely necessary, footnotes should be formatted in APA style and placed on a separate page after the reference list and before any tables.

Tables: Tables should be formatted in APA 7th edition style and should be placed after the references in the body of the manuscript. Please use Word's Table function to construct tables, not tabs and spacing. Tables should be numbered (with Arabic numerals) and referred to sequentially by number in the text. Each table should begin on a separate page. Please make tables double-spaced or single-and-one-half space, decimal align all numeric columns, and use sentence case for labels. Each datum should appear in its own cell (e.g., do not include *SDs* in parentheses following *Ms* but instead create a separate column for *SDs*). When reporting a table of intercorrelations, fill the rows first and then the columns such that any empty cells are in the lower left-hand quadrant of the table; use dashes in any redundant cells indicating the correlation of a variable with itself. Report exact *p* values to three decimal places (e.g., $p = .043$) wherever possible; however, if doing so would make the table unruly (e.g., in a table of intercorrelations), it is permissible to use asterisks to indicate *p* values at the traditional cut-off points (e.g., $* p < .05$. $** p < .01$. $p < .001$).

Color in tables: Color can be included in the online version of a manuscript at no charge; however, use of color in the print version of the journal will incur additional charges (currently \$600 per figure or table). If you wish to include color in only the online version, please ensure that each table will be legible in greyscale when it is published in the print version; for example, lines of different colors may be discriminable from one another when viewed in color but may not appear to be different from one another in greyscale.

Figures: All figures (graphs, photographs, drawings, and charts) should be numbered (with Arabic numerals) and referred to sequentially by number in the text. Each figure should begin on a separate page. Place the figure number and title above the figure. Include a separate legend, preferably within the figure borders, to explain symbols if needed. Place the figure note, including a list of all abbreviations used in the table and their definitions, below the figure; the note should also contain any information that will aid the reader in interpreting the figure. Please use an 8–14-point sans serif font (e.g., Arial or Calibri) throughout except for the caption, which should remain in the same typeface and size as used in the rest of the text. Use sentence case for titles and labels. Figures should be in Word, TIF, or EPS format.

Color in figures: Color can be included in the online version of a manuscript at no charge; however use of color in the print version of the journal will incur additional charges (currently \$600 per figure or table). If you wish to include color in only the online version, please ensure that each figure will be legible in greyscale when it is published in the print version; for example, lines of different colors may be discriminable from one another when viewed in color but may not appear to be different from one another in greyscale.

7. Uploading Files: After the separate Title Page has been uploaded as a Word file (.doc or .docx), the remaining text (abstract, main body of the manuscript, references, and tables) should be uploaded as a separate **single** Word file (.doc or .docx) designated as "Main Document." Figures may be either included in the main document or uploaded as separate files if in a non-Word format.

8. Supplementary Materials. Authors may wish to place some material in the separate designation of "Supplementary file not for review," which will be made available online for optional access by interested readers. This material will not be seen by reviewers and will not be taken into consideration in their evaluation of the scientific merits of the work, and will not be included in the published article. Material appropriate for such a designation includes information that is not essential to the reader's comprehension of the study design or findings, but which might be of interest to some scholars; examples might include descriptions of a series of non-significant post-hoc analyses that were not central to the main hypotheses of the study, detailed information about the content of coding system categories, and CONSORT flow diagrams for randomized controlled trials (see below). Note well that the manuscript must stand on its own without this material; consequently, critical information reviewers and readers need to evaluate or replicate the study, such as the provenance and psychometric properties of the measures administered, is not appropriate for placement into Supplementary Materials.

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All work submitted to the *Journal of Traumatic Stress* must conform to applicable governmental regulations and discipline-appropriate ethical standards. Responsibility for meeting these requirements rests with all authors. Human and animal research studies typically require prior approval by an institutional research or ethics committee that has been established to protect the welfare of human or animal participants.

Data collection for the purposes of providing clinical services or conducting an internal program evaluation generally does not require approval by an institutional research committee. However, analysis and presentation of such data outside the program setting may qualify as research (which is defined as an effort to produce generalizable knowledge) and thus may require approval by an institutional committee. Those who submit manuscripts to the *Journal of Traumatic Stress* based on data from these sources are encouraged to consult with a representative of the applicable institutional committee to determine whether approval is needed. Presentations that report on a particular person (e.g., a clinical case) also usually require written permission from that person to allow public disclosure for educational purposes, and involve alteration or withholding of information that might directly or indirectly reveal identity and breach confidentiality.

To document how these guidelines have been followed, authors are asked to identify in the online submission process the name of the authorized institution, committee, body, entity, or agency that reviewed and approved the research or that deemed it to be exempt from ethical or Internal Review Board review. Although blinded at the time of submission, the name of the IRB or ethics committee that approved the research, and the manner in which consent was obtained, also should appear in the Procedure subsection of the Method in the body of the report.

10. Cover Letter. In keeping with the *Journal of Traumatic Stress Ethical Guidelines*, each submission to the *Journal* should be accompanied by a cover letter in which the authors affirm 1) that the work has not been published previously and is not currently under consideration elsewhere; 2) that the work is original and the author(s)' own, and that no copyright has been breached by the inclusion of any content drawn from another source; 3) that the publication has been approved by all co-authors and, if required, by the governing authorities at the entity under which the research was carried out; 4) that the authors have no conflicts of interests or have declared any such conflicts; and 5) that the study followed ethical guidelines and was either approved or deemed exempt by an institutional or governmental authority.

11. Randomized Clinical Trials: Reports of randomized clinical trials should include a flow diagram and a completed CONSORT checklist (available at <http://www.consort-statement.org>) indicating how the manuscript follows CONSORT Guidelines for the reporting of randomized clinical trials. The flow diagram should be included as a figure in the manuscript whereas the checklist should be designated as a "Supplementary file not for review" during the online submission process. Please visit <http://consort-statement.org> for information about the consort standards and to download necessary forms.

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14. Originality and Uniqueness of Submissions. Submission is a representation that neither the manuscript nor substantive content within it has been published previously nor is currently under consideration for publication elsewhere. A statement transferring copyright from the authors (or their employers, if they hold the copyright) to the International Society for Traumatic Stress Studies will be required after the manuscript has been accepted for publication. Authors will be prompted to complete the appropriate Copyright Transfer Agreement through their Author Services account. Such a written transfer of copyright is necessary under U.S. Copyright Law in order for the publisher to carry through the dissemination of research results and reviews as widely and effectively as possible.

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1. **Preregistration.** JTS encourages, but does not require, investigators to preregister their study designs, methods, and hypotheses
2. **Data sharing.** JTS encourages investigators to share data, research materials, and codes by placing those resources in an appropriate public repository. Two examples of qualifying public, open-access databases of data, research instruments, and materials are the **IRIS digital repository** and the **Open Science Framework repository**. Personal websites and departmental websites generally do not qualify.
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Appendix 5

Professional Quality of Life Scale

Professional Quality of Life Scale (ProQOL)

*Compassion Satisfaction and Compassion 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.					
_____ 2.					
_____ 3.					
_____ 4.					
_____ 5.					
_____ 6.					
_____ 7.					
_____ 8.					
_____ 9.					
_____ 10.					
_____ 11.					
_____ 12.					
_____ 13.					
_____ 14.					
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_____ 16.					
_____ 17.					
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_____ 19.					
_____ 20.					
_____ 21.					
_____ 22.					
_____ 23.					
_____ 24.					
_____ 25.					
_____ 26.					
_____ 27.					
_____ 28.					
_____ 29.					
_____ 30.					

Appendix 6

Los Angeles Symptom Checklist

LOS ANGELES SYMPTOM CHECKLIST (ADULT VERSION)

Below is a list of problems. Rate each one on a scale of 0 to 4 according to how much of a problem that item is for you. A rating of zero would mean that the item is not a problem for you; one, a slight problem; two, a moderate problem; three, a serious problem; and four, an extreme problem.

0	1	2	3	4
not a problem	slight problem	moderate problem	serious problem	extreme problem
<input type="checkbox"/> 1. difficulty falling asleep			<input type="checkbox"/> 24. excessive eating	
<input type="checkbox"/> 2. abusive drinking			<input type="checkbox"/> 25. difficulty concentrating	
<input type="checkbox"/> 3. severe headaches			<input type="checkbox"/> 26. dizziness/fainting	
<input type="checkbox"/> 4. restlessness			<input type="checkbox"/> 27. sexual problems	
<input type="checkbox"/> 5. nightmares			<input type="checkbox"/> 28. waking during the night	
<input type="checkbox"/> 6. difficulty finding a job			<input type="checkbox"/> 29. difficulty with memory	
<input type="checkbox"/> 7. difficulty holding a job			<input type="checkbox"/> 30. marked self-consciousness	
<input type="checkbox"/> 8. irritability			<input type="checkbox"/> 31. depression	
<input type="checkbox"/> 9. pervasive disgust			<input type="checkbox"/> 32. inability to make and keep same sex friends	
<input type="checkbox"/> 10. momentary blackouts			<input type="checkbox"/> 33. inability to make and keep opposite sex friends	
<input type="checkbox"/> 11. abdominal discomfort			<input type="checkbox"/> 34. excessive jumpiness	
<input type="checkbox"/> 12. management of money			<input type="checkbox"/> 35. waking early in the morning	
<input type="checkbox"/> 13. trapped in an unsatisfying job			<input type="checkbox"/> 36. loss of weight/ appetite	
<input type="checkbox"/> 14. physical disabilities or medical problems. Explain: _____			<input type="checkbox"/> 37. heart palpitations	
<input type="checkbox"/> 15. hostility/violence			<input type="checkbox"/> 38. panic attacks	
<input type="checkbox"/> 16. marital problems			<input type="checkbox"/> 39. problems with authority	
<input type="checkbox"/> 17. easily fatigued			<input type="checkbox"/> 40. avoidance of activities that remind you of prior unpleasant experiences	
<input type="checkbox"/> 18. drug abuse			<input type="checkbox"/> 41. trouble trusting others	
<input type="checkbox"/> 19. inability to express feelings			<input type="checkbox"/> 42. loss of interest in usual activities	
<input type="checkbox"/> 20. tension and anxiety			<input type="checkbox"/> 43. feeling emotionally numb	
<input type="checkbox"/> 21. no leisure activities				
<input type="checkbox"/> 22. suicidal thoughts				
<input type="checkbox"/> 23. vivid memories of unpleasant prior experiences				

How long have you been bothered by these symptoms?

Scoring the LASC

There are two options for scoring this instrument. The categorical scoring provides direct correlation to the DSM IV diagnosis of PTSD. The continuous scoring method provides a severity score for PTSD. They are both described below.

Categorical: (must endorse items with a 2 or higher response)

- Category B = reexperiencing trauma = 1 item
- Category C = avoidance and numbing = 3 items
- Category D = increased arousal = 2 items

If the participant meets the criteria for each, she/he is positive for PTSD. If she/he meets criteria for 2 out of the three categories, this is considered partial PTSD.

Continuous:

- Sum of ratings across all 17 PTSD symptoms
- Sum of ratings of all 43 items, yields a global assessment of distress and adjustment problems.

**Los Angeles Symptom Checklist
PTSD Diagnostic Items**

ITEM	DESCRIPTION	CATEGORY
5	nightmares	B
23	memories of experiences	
28	waking during the night	

ITEM	DESCRIPTION	CATEGORY
19	inability to express feelings	C
29	difficulty with memory	
40	avoidance of – reminders	
41	trouble trusting others	
42	loss of interest in activities	
43	feeling emotionally numb	

ITEM	DESCRIPTION	CATEGORY
1	difficulty falling asleep	D
4	restlessness	
8	irritability	
20	tension and anxiety	
25	difficulty concentrating	
34	excessive jumpiness	
37	heart palpitations	
38	panic attacks	

**Los Angeles Symptom Checklist
Depression Items**

ITEM	DESCRIPTION
17	easily fatigued
22	suicidal thoughts
31	depression
35	wake up early in the morning

Appendix 7

Trait Meta-Mood Scale

SALOVEY ET AL.

APPENDIX: TRAIT META-MOOD SCALE

Please read each statement and decide whether or not you agree with it. Place a number in the blank line next to each statement using the following scale:

- 5 = strongly agree
 4 = somewhat agree
 3 = neither agree nor disagree
 2 = somewhat disagree
 1 = strongly disagree

- ___ 1. The variety of human feelings makes life more interesting.
 ___ 2. I try to think good thoughts no matter how badly I feel. [Repair]
 ___ 3. I don't have much energy when I am happy.
 ___ 4. People would be better off if they felt less and thought more. [Attention (R)]
 ___ 5. I usually don't have much energy when I'm sad.
 ___ 6. When I'm angry, I usually let myself feel that way.
 ___ 7. I don't think it's worth paying attention to your emotions or moods. [Attention (R)]
 ___ 8. I don't usually care much about what I'm feeling. [Attention (R)]
 ___ 9. Sometimes I can't tell what my feelings are. [Clarity (R)]
 ___ 10. If I find myself getting mad, I try to calm myself down.
 ___ 11. I have lots of energy when I feel sad.
 ___ 12. I am rarely confused about how I feel. [Clarity]
 ___ 13. I think about my mood constantly.
 ___ 14. I don't let my feelings interfere with what I am thinking.
 ___ 15. Feelings give direction to life. [Attention]

Note: Items in bold face refer to those items included on the recommended 30-item short-form of the scale. The subscale on which these items are assigned is indicated after them. R indicates that the item is reversed scored.

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- ___ 16. Although I am sometimes sad, I have a mostly optimistic outlook. [Repair]
 ___ 17. When I am upset I realize that the "good things in life" are illusions. [Repair (R)]
 ___ 18. I believe in acting from the heart. [Attention]
 ___ 19. I can never tell how I feel. [Clarity (R)]
 ___ 20. When I am happy I realize how foolish most of my worries are.
 ___ 21. I believe it's healthy to feel whatever emotion you feel.
 ___ 22. The best way for me to handle my feelings is to experience them to the fullest. [Attention]
 ___ 23. When I become upset I remind myself of all the pleasures in life. [Repair]
 ___ 24. My belief and opinions always seem to change depending on how I feel. [Clarity (R)]
 ___ 25. I usually have lots of energy when I'm happy.
 ___ 26. I am often aware of my feelings on a matter. [Clarity]
 ___ 27. When I'm depressed, I can't help but think of bad thoughts.
 ___ 28. I am usually confused about how I feel. [Clarity (R)]
 ___ 29. One should never be guided by emotions. [Attention (R)]
 ___ 30. If I'm in too good a mood, I remind myself of reality to bring myself down.
 ___ 31. I never give into my emotions. [Attention (R)]
 ___ 32. Although I am sometimes happy, I have a mostly pessimistic outlook. [Repair (R)]
 ___ 33. I feel at ease about my emotions. [Clarity]
 ___ 34. It's important to block out some feelings in order to preserve your sanity.
 ___ 35. I pay a lot of attention to how I feel. [Attention]
 ___ 36. When I'm in a good mood, I'm optimistic about the future.
 ___ 37. I can't make sense out of my feelings. [Clarity (R)]
 ___ 38. I don't pay much attention to my feelings. [Attention (R)]
 ___ 39. Whenever I'm in a bad mood, I'm pessimistic about the future.
 ___ 40. I never worry about being in too good a mood.

SALOVEY ET AL.

- ___ 41. I often think about my feelings. [Attention]
- ___ 42. I am usually very clear about my feelings. [Clarity]
- ___ 43. No matter how badly I feel, I try to think about pleasant things. [Repair]
- ___ 44. Feelings are a weakness humans have. [Attention (R)]
- ___ 45. I usually know my feelings about a matter. [Clarity]
- ___ 46. It is usually a waste of time to think about your emotions. [Attention (R)]
- ___ 47. When I am happy I sometimes remind myself of everything that could go wrong.
- ___ 48. I almost always know exactly how I am feeling. [Clarity]

Appendix 8

Emotion Regulation Questionnaire

EMOTION REGULATION QUESTIONNAIRE (ERQ)

Reference:

Gross, J.J., & John, O.P. (2003). Individual differences in two emotion regulation processes: Implications for affect, relationships, and well-being. *Journal of Personality and Social Psychology*, 85, 348-362.

Description of Measure:

A 10-item scale designed to measure respondents' tendency to regulate their emotions in two ways: (1) Cognitive Reappraisal and (2) Expressive Suppression. Respondents answer each item on a 7-point Likert-type scale ranging from 1 (strongly disagree) to 7 (strongly agree).

Note: the authors request that researchers do not change the order of the items.

Abstracts of Selected Related Articles:

Ochsner, K. & Gross, J. J. (2005). The cognitive control of emotion. *Trends in Cognitive Sciences*, 9, 242-249.

The capacity to control emotion is important for human adaptation. Questions about the neural bases of emotion regulation have recently taken on new importance, as functional imaging studies in humans have permitted direct investigation of control strategies that draw upon higher cognitive processes difficult to study in nonhumans. Such studies have examined (1) controlling attention to, and (2) cognitively changing the meaning of, emotionally evocative stimuli. These two forms of emotion regulation depend upon interactions between prefrontal and cingulate control systems and cortical and subcortical emotion-generative systems. Taken together, the results suggest a functional architecture for the cognitive control of emotion that dovetails with findings from other human and nonhuman research on emotion.

Butler, E. A., Egloff, B., Wilhelm, F. H., Smith, N. C., Erikson, E. A., & Gross, J. J. (2003). The social consequences of expressive suppression. *Emotion*, 3, 48-67.

At times, people keep their emotions from showing during social interactions. The authors' analysis suggests that such expressive suppression should disrupt communication and increase stress levels. To test this hypothesis, the authors conducted 2 studies in which unacquainted pairs of women discussed an upsetting topic. In Study 1, one member of each pair was randomly assigned to (a) suppress her emotional behavior, (b) respond naturally, or (c) cognitively reappraise in a way that reduced emotional responding. Suppression alone disrupted communication and magnified blood pressure responses in the suppressors' partners. In Study 2, suppression had a negative impact on the regulators'

emotional experience and increased blood pressure in both regulators and their partners. Suppression also reduced rapport and inhibited relationship formation.

Mauss, I. B., Levenson, R. W., McCarter, L., Wilhelm, F. H., Gross, J. J. (2005). The tie that binds? Coherence among emotion experience, behavior, and physiology. *Emotion*, 5, 175-190.

Emotion theories commonly postulate that emotions impose coherence across multiple response systems. However, empirical support for this coherence postulate is surprisingly limited. In the present study, the authors (a) examined the within-individual associations among experiential, facial behavioral, and peripheral physiological responses during emotional responding and (b) assessed whether emotion intensity moderates these associations. Experiential, behavioral, and physiological responses were measured second-by-second during a film that induced amusement and sadness. Results indicate that experience and behavior were highly associated but that physiological responses were only modestly associated with experience and behavior. Intensity of amusement experience was associated with greater coherence between behavior and physiological responding; intensity of sadness experience was not. These findings provide new evidence about response system coherence in emotions.

Scale (take directly from <http://psychology.stanford.edu/~psyphy/resources.html>):

Instructions and Items:

We would like to ask you some questions about your emotional life, in particular, how you control (that is, regulate and manage) your emotions. The questions below involve two distinct aspects of your emotional life. One is your emotional experience, or what you feel like inside. The other is your emotional expression, or how you show your emotions in the way you talk, gesture, or behave. Although some of the following questions may seem similar to one another, they differ in important ways. For each item, please answer using the following scale:

1	2	3	4	5	6	7
strongly disagree			neutral			strongly agree

1. ____ When I want to feel more *positive* emotion (such as joy or amusement), I *change what I'm thinking about*.
2. ____ I keep my emotions to myself.
3. ____ When I want to feel less *negative* emotion (such as sadness or anger), I *change what I'm thinking about*.
4. ____ When I am feeling *positive* emotions, I am careful not to express them.



5. ____ When I'm faced with a stressful situation, I make myself *think about it* in a way that helps me stay calm.
6. ____ I control my emotions by *not expressing them*.
7. ____ When I want to feel more *positive* emotion, I *change the way I'm thinking* about the situation.
8. ____ I control my emotions by *changing the way I think* about the situation I'm in.
9. ____ When I am feeling *negative* emotions, I make sure not to express them.
10. ____ When I want to feel less *negative* emotion, I *change the way I'm thinking* about the situation.

Scoring:

Items 1, 3, 5, 7, 8, 10 make up the Cognitive Reappraisal facet.
Items 2, 4, 6, 9 make up the Expressive Suppression facet.

Scoring is kept continuous.
Each facet's scoring is kept separate.



Appendix 9

Ethical Approval Letter



Central University Research Ethics Committee A

15 February 2019

Dear Dr Gillespie

I am pleased to inform you that your application for research ethics approval has been approved. Application details and conditions of approval can be found below. Appendix A contains a list of documents approved by the Committee.

Application Details

Reference:	4555
Project Title:	Professional Quality of Life in Forensic Healthcare Staff
Principal Investigator/Supervisor:	Dr Steven Gillespie
Co-Investigator(s):	Ms Annaliese Jowsey
Lead Student Investigator:	-
Department:	Department of Psychological Sciences
Approval Date:	15/02/2019
Approval Expiry Date:	Five years from the approval date listed above

The application was **APPROVED** subject to the following conditions:

Conditions of approval

- All serious adverse events must be reported to the Committee (ethics@liverpool.ac.uk) in accordance with the procedure for reporting adverse events.
- If you wish to extend the duration of the study beyond the research ethics approval expiry date listed above, a new application should be submitted.
- If you wish to make an amendment to the study, please create and submit an amendment form using the research ethics system.
- If the named Principal Investigator or Supervisor leaves the employment of the University during the course of this approval, the approval will lapse. Therefore it will be necessary to create and submit an amendment form within the research ethics system.
- It is the responsibility of the Principal Investigator/Supervisor to inform all the investigators of the terms of the approval.

Kind regards,

Central University Research Ethics Committee A

ethics@liverpool.ac.uk

CURECA

Appendix - Approved Documents

(Relevant only to amendments involving changes to the study documentation)

The final document set reviewed and approved by the committee is listed below:

Document Type	File Name	Date	Version
Research Tools	Recruitment Emails - V1 - 07.12.18	07/12/2018	1
Questionnaire	TRAIT META MOOD 2 (WORD)	02/02/2019	2
Questionnaire	Emotion Regulation Questionnaire 2 WORD	02/02/2019	2
Questionnaire	Los Angeles Checklist 2 WORD	02/02/2019	2
Advertisement	Research Advert Poster - V3 - 02.02.19	02/02/2019	3
Debriefing Material	Participant Debrief Information-3 02.02.19	02/02/2019	3
Participant Information Sheet	Participant Information V3 - 02.02.19	02/02/2019	3
Study Proposal/Protocol	Research Proposal 3.1	06/02/2019	3.1
Evidence Of Peer Review	Jowsey, Annaliese_Amendment Approval_06.02.19	06/02/2019	3
Questionnaire	Demographic Information	11/02/2019	2.1
Participant Consent Form	Participant Consent Form - V2.2 - 13.02.19	13/02/2019	2.2
Questionnaire	Professional Quality of Life Questionnaire 2 WORD	13/02/2019	3

Appendix 10

HRA and Health and Care Research Wales (HCRW) Approval



Dr Steven Gillespie
Department of Psychological Sciences
Institute of Psychology, Health and Society
Whelan Building, Room G19, University of Liverpool
L69 3GB

Email: hra.approval@nhs.net
Research-permissions@wales.nhs.uk

28 March 2019

Dear Dr Gillespie

**HRA and Health and Care
Research Wales (HCRW)
Approval Letter**

Study title: Professional Quality of Life in Forensic Service Healthcare Staff: The Role of Emotional Intelligence, Emotion Regulation Strategies and Trauma-Related Symptoms

IRAS project ID: 255715

Protocol number: 3908

Sponsor University of Liverpool

I am pleased to confirm that [HRA and Health and Care Research Wales \(HCRW\) Approval](#) has been given for the above referenced study, on the basis described in the application form, protocol, supporting documentation and any clarifications received. You should not expect to receive anything further relating to this application.

How should I continue to work with participating NHS organisations in England and Wales?
You should now provide a copy of this letter to all participating NHS organisations in England and Wales, as well as any documentation that has been updated as a result of the assessment.

Following the arranging of capacity and capability, participating NHS organisations should formally confirm their capacity and capability to undertake the study. How this will be confirmed is detailed in the "*summary of assessment*" section towards the end of this letter.

You should provide, if you have not already done so, detailed instructions to each organisation as to how you will notify them that research activities may commence at site following their confirmation of capacity and capability (e.g. provision by you of a 'green light' email, formal notification following a site initiation visit, activities may commence immediately following confirmation by participating organisation, etc.).

It is important that you involve both the research management function (e.g. R&D office) supporting each organisation and the local research team (where there is one) in setting up your study. Contact details of the research management function for each organisation can be accessed [here](#).

IRAS project ID	255715
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How should I work with participating NHS/HSC organisations in Northern Ireland and Scotland?

HRA and HCRW Approval does not apply to NHS/HSC organisations within the devolved administrations of Northern Ireland and Scotland.

If you indicated in your IRAS form that you do have participating organisations in either of these devolved administrations, the final document set and the study wide governance report (including this letter) has been sent to the coordinating centre of each participating nation. You should work with the relevant national coordinating functions to ensure any nation specific checks are complete, and with each site so that they are able to give management permission for the study to begin.

Please see [IRAS Help](#) for information on working with NHS/HSC organisations in Northern Ireland and Scotland.

How should I work with participating non-NHS organisations?

HRA and HCRW Approval does not apply to non-NHS organisations. You should work with your non-NHS organisations to [obtain local agreement](#) in accordance with their procedures.

What are my notification responsibilities during the study?

The attached document *“After HRA Approval – guidance for sponsors and investigators”* gives detailed guidance on reporting expectations for studies with HRA and HCRW Approval, including:

- Registration of Research
- Notifying amendments
- Notifying the end of the study

The [HRA website](#) also provides guidance on these topics and is updated in the light of changes in reporting expectations or procedures.

I am a participating NHS organisation in England or Wales. What should I do once I receive this letter?

You should work with the applicant and sponsor to complete any outstanding arrangements so you are able to confirm capacity and capability in line with the information provided in this letter.

The sponsor contact for this application is as follows:

Name: Alex Astor

Tel: 0151 794 8373

Email: sponsor@liv.ac.uk

Who should I contact for further information?

Please do not hesitate to contact me for assistance with this application. My contact details are below.

Your IRAS project ID is 255715. Please quote this on all correspondence.

Yours sincerely

IRAS project ID	255715
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Chris Kitchen
Assessor

Email: hra.approval@nhs.net

Copy to: *Mr Alex Astor, University of Liverpool (Sponsor Contact)*

IRAS project ID	255715
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List of Documents

The final document set assessed and approved by HRA and HCRW Approval is listed below.

Document	Version	Date
Copies of advertisement materials for research participants [Research Advert]	3	02 February 2019
HRA Schedule of Events [SoE]	1	28 March 2019
HRA Statement of Activities [SoA]	1	28 March 2019
IRAS Application Form [IRAS_Form_08032019]		08 March 2019
Letter from sponsor [Signed Sponsorship Letter]	1	19 November 2018
Letters of invitation to participant [Recruitment Emails]	1	27 November 2018
Non-validated questionnaire [Demographic Questionnaire]	2.1	11 February 2019
Participant consent form [Participant Consent Form]	2.2	13 February 2019
Participant information sheet (PIS) [Participant Information Sheet]	4	28 March 2019
Research protocol or project proposal [Research Proposal]	3.1	06 February 2019
Summary CV for Chief Investigator (CI) [CV - Gillespie]	1	03 December 2018
Summary CV for student [CV - Jowsey]	1	03 December 2018
Summary CV for supervisor (student research) [CV - Collinson]	1	03 December 2018
Validated questionnaire [PTSD Symptom Checklist]	1	06 February 2019
Validated questionnaire [Emotion Regulation Questionnaire]	1	06 February 2019
Validated questionnaire [Trait Meta Mood Scale]	1	06 February 2019
Validated questionnaire [Professional Quality of Life Questionnaire]	1	06 February 2019

IRAS project ID	255715
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Summary of assessment

The following information provides assurance to you, the sponsor and the NHS in England and Wales that the study, as assessed for HRA and HCRW Approval, is compliant with relevant standards. It also provides information and clarification, where appropriate, to participating NHS organisations in England and Wales to assist in assessing, arranging and confirming capacity and capability.

Assessment criteria

Section	Assessment Criteria	Compliant with Standards	Comments
1.1	IRAS application completed correctly	Yes	No comments
2.1	Participant information/consent documents and consent process	Yes	No comments
3.1	Protocol assessment	Yes	No comments
4.1	Allocation of responsibilities and rights are agreed and documented	Yes	A Statement of Activities has been submitted and the sponsor is not requesting and does not expect any other site agreement to be used.
4.2	Insurance/indemnity arrangements assessed	Yes	Although NHS indemnity has also been selected to cover the design of the study in IRAS A76-2, the applicant has confirmed that sponsor insurance alone will cover this aspect of the study.
4.3	Financial arrangements assessed	Yes	No application for external funding has been made. As per the Statement of Activities, no funding will be provided to the participating organisation.
5.1	Compliance with the Data Protection Act and data security issues assessed	Yes	No comments
5.2	CTIMPS – Arrangements for compliance with the Clinical	Not Applicable	No comments

IRAS project ID	255715
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Section	Assessment Criteria	Compliant with Standards	Comments
	Trials Regulations assessed		
5.3	Compliance with any applicable laws or regulations	Yes	No comments
6.1	NHS Research Ethics Committee favourable opinion received for applicable studies	Not Applicable	No comments
6.2	CTIMPS – Clinical Trials Authorisation (CTA) letter received	Not Applicable	No comments
6.3	Devices – MHRA notice of no objection received	Not Applicable	No comments
6.4	Other regulatory approvals and authorisations received	Not Applicable	No comments

Participating NHS Organisations in England and Wales

This provides detail on the types of participating NHS organisations in the study and a statement as to whether the activities at all organisations are the same or different.

This is a non-commercial study with a single participating NHS organisation.

The Chief Investigator or sponsor should share relevant study documents with participating NHS organisations in England and Wales in order to put arrangements in place to deliver the study. The documents should be sent to both the local study team, where applicable, and the office providing the research management function at the participating organisation. Where applicable, the local LCRN contact should also be copied into this correspondence.

If chief investigators, sponsors or principal investigators are asked to complete site level forms for participating NHS organisations in England and Wales which are not provided in IRAS, the HRA or HCRW websites, the chief investigator, sponsor or principal investigator should notify the HRA immediately at hra.approval@nhs.net or HCRW at Research-permissions@wales.nhs.uk. We will work with these organisations to achieve a consistent approach to information provision.

Principal Investigator Suitability

This confirms whether the sponsor position on whether a PI, LC or neither should be in place is correct for each type of participating NHS organisation in England and Wales, and the minimum expectations for education, training and experience that PIs should meet (where applicable).

IRAS project ID	255715
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A Principal Investigator is expected to be in place at the participating organisation.

As per the Statement of Activities, the sponsor will not provide additional training.

GCP training is not a generic training expectation, in line with the [HRA/HCRW/MHRA statement on training expectations](#).

HR Good Practice Resource Pack Expectations

This confirms the HR Good Practice Resource Pack expectations for the study and the pre-engagement checks that should and should not be undertaken

For research team members that do not have existing contractual relationships with the participating organisation, Letters of Access should be in place if the activities undertaken at the NHS site involve contact with staff, on the basis of Research Passports (if University employed) or NHS to NHS confirmation of pre-engagement checks letters (if NHS employed). The pre-engagement checks are not expected to include DBS checks or Occupational Health Clearance.

Other Information to Aid Study Set-up

This details any other information that may be helpful to sponsors and participating NHS organisations in England and Wales to aid study set-up.

The applicant has indicated that they do not intend to apply for inclusion on the NIHR CRN Portfolio.

Appendix 11

Letter of Access for Research



Tees, Esk and Wear Valleys
NHS Foundation Trust

Research & Development
Flatts Lane Centre
Flatts Lane
Normanby
Middlesbrough
TS6 0SZ

9 April 2019

Ms Annaliese Jowsey
Trainee Clinical Psychologist
University of Liverpool

Dear Ms Jowsey

Letter of access for research: Professional Quality of Life in Forensic Service Healthcare Staff: The Role of Emotional Intelligence, Emotion Regulation Strategies and Trauma-Related Symptoms

We are satisfied that the research activities that you will undertake in this NHS organisation are commensurate with the activities you undertake for your place of study. Your place of study is fully responsible for ensuring such checks as are necessary have been carried out. Your place of study has confirmed in writing to this NHS organisation that the necessary pre-engagement check are in place in accordance with the role you plan to carry out in this organisation. This letter confirms your right of access to conduct research through Tees, Esk & Wear Valleys NHS FT for the purpose and on the terms and conditions set out below. This right of access commences on **09 April 2019** and ends on **02 September 2020** unless terminated earlier in accordance with the clauses below.

You have a right of access to conduct such research as confirmed in writing in the letter of permission for research from this NHS organisation. Please note that you cannot start the research until the Principal Investigator for the research project has received a letter from us giving permission to conduct the project.

You are considered to be a legal visitor to Tees, Esk & Wear Valleys NHS FT premises. You are not entitled to any form of payment or access to other benefits provided by this organisation to employees and this letter does not give rise to any other relationship between you and this NHS organisation, in particular that of an employee.

While undertaking research through Tees, Esk & Wear Valleys NHS FT, you will remain accountable to your place of study **University of Liverpool** but you are required to follow the reasonable instructions of your nominated manager Sarah Daniel in this NHS organisation or those given on her/his behalf in relation to the terms of this right of access.

Where any third party claim is made, whether or not legal proceedings are issued, arising out of or in connection with your right of access, you are required to co-operate fully with any investigation by this NHS organisation in connection with any such claim and to give all such assistance as may reasonably be required regarding the conduct of any legal proceedings.

You must act in accordance with Tees, Esk & Wear Valleys NHS FT policies and procedures, which are available to you upon request, and the *UK Policy Framework for Health and Social Care V3.3 - 7/11/2017*.

You are required to co-operate with Tees, Esk & Wear Valleys NHS FT in discharging its duties under the Health and Safety at Work etc Act 1974 and other health and safety legislation and to take reasonable care for the health and safety of yourself and others while on Tees, Esk & Wear Valleys NHS FT premises. Although you are not a contract holder, you must observe the same standards of care and propriety in dealing with patients, staff, visitors, equipment and premises as is expected of a contract holder and you must act appropriately, responsibly and professionally at all times.

If you have a physical or mental health condition or disability which may affect your research role and which might require special adjustments to your role, if you have not already done so, you must notify your employer and the Trust (Sarah Daniel and Occupational Health) prior to commencing your research role at the Trust.

You are required to ensure that all information regarding patients or staff remains secure and *strictly confidential* at all times. You must ensure that you understand and comply with the requirements of the NHS Confidentiality Code of Practice (<http://www.dh.gov.uk/assetRoot/04/06/92/54/04069254.pdf>) and the General Data Protection Regulation (GDPR) (May, 2018). Furthermore you should be aware that under the Act, unauthorised disclosure of information is an offence and such disclosures may lead to prosecution. You will be required to demonstrate your understanding of all Trust information governance standards.

Tees, Esk & Wear Valleys NHS FT will not indemnify you against any liability incurred as a result of any breach of confidentiality or breach of the General Data Protection Regulation (GDPR) (May, 2018). Any breach of the General Data Protection Regulation (GDPR) (May, 2018) may result in legal action against you and/or your substantive employer.

You should ensure that, where you are issued with an identity or security card, a bleep number, email or library account, keys or protective clothing, these are returned upon termination of this arrangement. Please also ensure that while on the premises you wear your ID badge at all times, or are able to prove your identity if challenged. Please note that this NHS organisation accepts no responsibility for damage to or loss of personal property.

We may terminate your right to attend at any time either by giving seven days' written notice to you or immediately without any notice if you are in breach of any of the terms or conditions described in this letter or if you commit any act that we reasonably consider to amount to serious misconduct or to be disruptive and/or prejudicial to the

interests and/or business of this NHS organisation or if you are convicted of any criminal offence. You must not undertake regulated activity if you are barred from such work. If you are barred from working with adults or children this letter of access is immediately terminated. Your place of study will immediately withdraw you from undertaking this or any other regulated activity and you MUST stop undertaking any regulated activity immediately.

Your place of study is responsible for your conduct during this research project and may in the circumstances described above instigate disciplinary action against you.

If your circumstances change in relation to your health, criminal record, professional registration or suitability to work with adults or children, or any other aspect that may impact on your suitability to conduct research, or your role in research changes, you must inform your place of study through its normal procedures. You must also inform your nominated manager in this NHS organisation.

To enable you to engage in research studies at Tees, Esk and Wear Valleys NHS Foundation Trust and in line with the New Data Protection Legislation, you are advised that personal information provided to us by you will be held securely in the Investigators Site file. This file will have restricted access and be held for the duration of the clinical trial and subsequent archiving period, after which time it will be destroyed.

Yours sincerely



Maninder Kaur
R&D Facilitator

Appendix 12

Recruitment Emails

Email 1:

SENT ON BEHALF OF A CLINICAL PSYCHOLOGY TRAINEE

Dear Staff Member,

My name is Annaliese Jowsey and I am a second-year Trainee Clinical Psychologist at the University of Liverpool.

The Gatekeeper, Sue Kennedy/Helen Collett has forwarded this email to you on my behalf as you are eligible to take part in my research project. I do not know who has been contacted nor have I been given any information about you, nor your contact details.

As a clinician working in forensic services you are invited to participate in my research project exploring factors which may impact upon professional quality of life in forensic healthcare staff. Participating in this study will require you to complete four short questionnaires. There are no right or wrong answers just your own opinions.

Whilst there are also a few demographic questions including information about your professional role, please note that nothing that will identify you as an individual and all your responses are completely anonymous (even to myself).

The whole survey should take approximately 30 minutes. The Participant Information Sheet attached, provides more detail about the project. Please read this before deciding whether or not to participate. Please click on the link below to access the online questionnaire.

<https://bit.ly/2RoO4Y8>

There will be a series of reminders sent out about this project so please accept my apologies in advance if you have already replied, or already decided you do not wish to take part, when you receive these reminders.

Thank you in advance for your time and participation.

Kind Regards,

Annaliese Jowsey
Trainee Clinical Psychologist
University of Liverpool

Email 2 (sent after 2 weeks):

SENT ON BEHALF OF A CLINICAL PSYCHOLOGY TRAINEE

Dear Staff Member,

This is a follow-up email because we require more participants for data collection. Please accept my apologies if you have already participated in this research.

My name is Annaliese Jowsey and I am a second-year Trainee Clinical Psychologist at the University of Liverpool.

The Gatekeeper, Sue Kennedy/Helen Collett, has forwarded this email to you on my behalf as you are eligible to take part in my research project. I do not know who has been contacted nor have I been given any information about you, nor your contact details.

As a clinician working in forensic services you are invited to participate in my research project exploring factors which may impact upon professional quality of life in forensic healthcare staff. Participating in this study will require you to complete four short questionnaires. There are no right or wrong answers just your own opinions.

Whilst there are also a few demographic questions including information about your professional role, please note that nothing that will identify you as an individual and all your responses are completely anonymous (even to myself).

The whole survey should take approximately 30 minutes to complete. The Participant Information Sheet attached, provides more detail about the project. Please read this before deciding whether or not to participate. Please click on the link below to access the online questionnaire.

<https://bit.ly/2RoO4Y8>

There will be a series of reminders sent out about this project so please accept my apologies in advance if you have already replied, or already decided you do not wish to take part, when you receive these reminders.

Thank you in advance for your time and participation.

Kind Regards,

Annaliese Jowsey
Trainee Clinical Psychologist
University of Liverpool

Email 3 (sent after a further 2 weeks):

SENT ON BEHALF OF A CLINICAL PSYCHOLOGY TRAINEE

Dear Staff Member,

This is a follow-up email because we require more participants for data collection. Please accept my apologies if you have already participated in this research.

My name is Annaliese Jowsey and I am a second-year Trainee Clinical Psychologist at the University of Liverpool.

The Gatekeeper, Sue Kennedy/Helen Collett, has forwarded this email to you on my behalf as you are eligible to take part in my research project. I do not know who has been contacted nor have I been given any information about you, nor your contact details.

As a clinician working in forensic services you are invited to participate in my research project exploring factors which may impact upon professional quality of life in forensic healthcare staff. Participating in this study will require you to complete four short questionnaires. There are no right or wrong answers just your own opinions.

Whilst there are also a few demographic questions including information about your professional role, please note that nothing that will identify you as an individual and all your responses are completely anonymous (even to myself).

The whole survey should take approximately 30 minutes to complete. The Participant Information Sheet attached, provides more detail about the project. Please read this before deciding whether or not to participate. Please click on the link below to access the online questionnaire.

<https://bit.ly/2RoO4Y8>

This is the final reminder; please accept my apologies in advance if you have already replied, or already decided you do not wish to take part, when you receive this.

Thank you in advance for your time and participation.

Kind Regards,

Annaliese Jowsey
Trainee Clinical Psychologist
University of Liverpool

Appendix 13

Research Advert



Do you currently work across the inpatient forensic services at Roseberry Park Hospital?

Researchers within The University of Liverpool Doctorate in Clinical Psychology department are looking for forensic healthcare staff to take part in a study. This study will be examining professional quality of life in forensic healthcare staff, exploring the role of emotion intelligence, emotion regulation strategies and trauma-related symptoms.

If you are aged **18 years or over**, are currently a member of clinical staff employed by Tees, Esk & Wear Valleys and work across the Forensic Learning Disabilities or Forensic Mental Health Services, then we would like to invite you to take part in our research study.

The study is being conducted online. The study involves completing a series of questionnaires and should take no longer than 30 minutes to complete.

You can find out more information and access the questionnaire at:

<https://bit.ly/2RoO4Y8>

*If you have any other questions please feel free to contact us:
annaliese.jowsey@liverpool.ac.uk*

Research Poster – Version 3 – Date:02/02/2019 IRAS Number: :255715

Appendix 14

Participant Information Sheet

Professional Quality of Life in Forensic Healthcare Staff: The Role of Emotional Intelligence, Emotional Regulation Strategies and Trauma-Related Symptoms

You are being invited to participate in a research study (Exploring factors which may impact upon Professional Quality of Life in Forensic Healthcare Staff). Before you decide whether to participate, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and feel free to ask us if you would like more information or if there is anything that you do not understand. We would like to stress that you do not have to accept this invitation and should only agree to take part if you want to.

What is the purpose of this study?

Professional quality of life (ProQOL) is the quality of life perceived by professionals who help people in need and consists of burnout, compassion fatigue and compassion satisfaction. Emotional intelligence is a concept shown to be important in environments where it is important to understand other people and is identified as a relevant concept within healthcare where it is vital for staff to understand patient's perspectives.

It is understood that those staff supporting individuals with mental health difficulties and a forensic history are often subjected to a higher risk of violence, aggression and stress compared to staff working in other services. The impact of exposure to traumatic incidents and the experience of trauma-related symptoms on professional quality of life across professional disciplines working in secure settings remains unclear. Levels of emotional intelligence and the use of different strategies to regulate emotions may also impact upon professional quality of life.

We hope to explore the impact that post-traumatic symptoms, level of emotional intelligence and emotion regulation strategies have upon professional quality of life (ProQOL) in forensic healthcare staff. It is hoped that findings will inform clinical practice by highlighting factors that may protect against stress in the work place and increase quality of life for forensic staff.

Why have I been chosen to take part?

You have been approached because you are currently a member of staff working within the low and medium secure wards across either the Forensic Mental Health or Forensic Learning Disability services at Roseberry Park Hospital.

Do I have to take part?

Your participation is entirely voluntary and if you decide not to take part this will have no impact upon your current or future career within the NHS. If you decide to submit your e-mail address to enter into the prize draw, only the research team will have access to this information and this will not be shared with any other members of NHS staff therefore nobody else will be aware whether you have participated or not.

What will happen if I take part?

If you decide to take part in the study then you will be asked to complete a series of questionnaires. The questionnaires will take approximately 30 minutes to complete, and you will be asked various questions about some of the difficult experiences you may have encountered through your work, problems you have experienced as a result of such incidents at work, your mood and emotion

management strategies. You will also be asked to provide some demographic information including your gender, current job role and number of years of forensic experience. It is important that you remember to answer all items on the questionnaires in relation to your work experiences.

How will my data be used?

The University processes personal data as part of its research and teaching activities in accordance with the lawful basis of 'public task', and in accordance with the University's purpose of "advancing education, learning and research for the public benefit.

Under UK data protection legislation, the University acts as the Data Controller for personal data collected as part of the University's research. The [Principal Investigator / Supervisor] acts as the Data Processor for this study, and any queries relating to the handling of your personal data can be sent to [Annaliese Jowsey: Annaliese.Jowsey@liverpool.ac.uk/Steven.Gillespie@liverpool.ac.uk].

Further information on how your data will be used can be found in the table below:

How will my data be collected?	Data will be collected through the use of anonymised online questionnaires.
How will my data be stored?	All information collected as part of this study will be stored securely on a password protected personal university computer drive.
How long will my data be stored for?	In line with ethical and governance requirements, this will be kept for a minimum of ten years following the end of the project, after which it will be destroyed. The research data that we produce may be made openly available to the wider academic community in accordance with the University of Liverpool Research Data Management Policy.
What measures are in place to protect the security and confidentiality of my data?	Your data will be stored on password protected, secured computer systems which are only accessible by the researcher. Your data will be anonymised and non-identifiable.
Will my data be anonymised?	Yes – your information will remain strictly confidential. If you decide to take part then you will be assigned a unique study identification number so that the research team will not know your identity.
How will my data be used?	Results from the study will be submitted for publication in scientific journals. The research data that we produce may be made openly available to the wider academic community in accordance with

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How will my data be used?	Results from the study will be submitted for publication in scientific journals. The research data that we produce may be made openly available to the wider academic community in accordance with the University of Liverpool Research Data Management Policy. However as stated previously, data represented in the papers will not be identifiable. Findings will also be disseminated to the forensic service through service meetings. Please note you will not be identifiable in any publications associated with this study.
Who will have access to my data?	Your information will be confidential and non-identifiable with only the research team having access to the anonymised responses (Annaliese Jowsey – Researcher, Steven Gillespie – Primary Supervisor and Rachel Collinson – Secondary Supervisor). Consistent with open science practices, anonymised data may be made available as part of peer reviewed publications, or

Will my data be archived for use in other research projects in the future?	Anonymised responses will be kept for 10 years and may be used to answer related research questions. If you choose to submit your e-mail address to enter into the prize draw, the email address you provide will be stored securely and will not be linked to any of the survey responses prior to being destroyed.
How will my data be destroyed?	In line with ethical and governance requirements, the collected data will be permanently deleted from the university drive along with any data analysis after 10 years following completion of the project.

What are the risks and benefits of taking part?

Whilst there are no anticipated risks to you if you choose to take part in this study, some questions may encourage you to reflect on some of the traumatic incidents you have experienced as part of your work. You will be given the contact details of further support services for your information on completion of the questionnaires.

If however you do not wish to complete the entire survey and in the event that any of material has caused you distress please seek support from your line manager or you can contact the Employee Support Service confidentially via the InTouch home page. You may also wish to discuss any concerns with Dr Rachel Collinson (Highly Specialist Clinical Psychologist) who will be contactable via e-mail.

There are no direct benefits in taking part in the study. However, it is hoped that your participation will help us inform clinical practice by highlighting factors which may protect against stress in the work place and increase quality of life for forensic healthcare staff. It is also hoped that your participation will help us to provide greater access to training programmes to increase emotion regulation and emotional intelligence of forensic staff.

What will happen to the results of the study?

Results from the study will be submitted for publication in scientific journals. As stated previously, the data presented in these papers will not be identifiable. Findings will be disseminated to the forensic service and service meetings. Please note that you **will not** be identifiable in any publications associated with this study.

Free prize draw

You will also be given the option to enter into a free prize draw for the chance to win one of two **£50 pounds amazon vouchers**. If you wish to enter, you will be redirected to another survey where you will be asked to provide an email address so that we can contact the prize winner. Please note that your email address will be stored securely, and **will not be linked** to any of the survey responses you provided. Following the draw all email addresses entered will be destroyed after a maximum time period of 12 months.

What will happen if I want to stop taking part?

There will be a question on the bottom of each page which asks if you would like to continue completing the survey. If you select 'no' you will automatically be taken to a debrief page and will not have to continue to answer any further questions. Any data that you have already submitted cannot be withdrawn or later destroyed.

Your rights to access, change or move your information are limited, as we need to manage your information in specific ways in order for the research to be reliable and accurate. You can withdraw by closing the survey but the data that you have already submitted cannot be withdrawn or later destroyed. If you complete all parts of the survey, due to the fact that your responses are not personally identifiable, at this stage your responses will not be able to be removed.

What if I am unhappy or if there is a problem?

If you are unhappy, or if there is a problem, please feel free to let us know by contacting Annaliese Jowsey – Annaliese.Jowsey@liverpool.ac.uk and we will try to help. If you remain unhappy or have a complaint which you feel you cannot come to us with then you should contact the Research Ethics and Integrity Office at ethics@liv.ac.uk. When contacting the Research Ethics and Integrity Office, please provide details of the name or description of the study (so that it can be identified), the researcher(s) involved, and the details of the complaint you wish to make.

The University strives to maintain the highest standards of rigour in the processing of your data. However, if you have any concerns about the way in which the University processes your personal data, it is important that you are aware of your right to lodge a complaint with the Information Commissioner's Office by calling 0303 123 1113.

Who can I contact if I have further questions?

If you have any questions regarding the study or would like further information, please contact the lead researcher, Annaliese Jowsey (Trainee Clinical Psychologist, University of Liverpool Annaliese.Jowsey@liverpool.ac.uk) or the primary research supervisor, Dr Steven Gillespie (Lecturer in Clinical Psychology, University of Liverpool; Steven.Gillespie@liverpool.ac.uk).

Appendix 15

Debrief Information

Thank you

Thank you for taking the time to complete this survey.

If in the event that any of material has caused you distress please seek support from your line manager or you can contact the Employee Support Service confidentially via the InTouch home page. People can access the service by self-referral, referrals through your line manager, sickness absence team, occupational health or colleague. You can contact the service by email on tewv.employeesupport@nhs.net or telephone on 07795654423/07867917600

Tees, Esk & Wear Valleys NHS Foundation Trust are recognised as being a 'Mindful Employer' and are committed to increasing awareness of mental ill-health and are committed to recruit and train staff who have their own mental health difficulties. Further information about staff health and wellbeing, specifically information about the employee support service, occupational health, trust staff retreats, staff mindfulness and the Employee psychology service (EPS) can be found at:

<https://www.tewv.nhs.uk/working-for-us/why-choose-us/staff-health-and-wellbeing/>

You may also wish to discuss any concerns with Dr Rachel Collinson (Highly Specialist Clinical Psychologist) who will be contactable via e-mail.

If you would like any further information or have any other queries in relation to this study please find the following contact details below:

Project Lead	Annaliese Jowsey	annaliese.jowsey@liverpool.ac.uk
Academic Supervisor	Dr Steven Gillespie	steven.gillespie@liverpool.ac.uk
Field Supervisor	Dr Rachel Collinson	r.collinson@nhs.net

If you are interested in entering the prize draw to win one of two £50 amazon vouchers then please provide your e-mail address below to be in with the chance of winning.

The draw will be carried out once all results have been analysed and you will be contacted via the e-mail address you have provided.

Please note:

By providing your e-mail address, you are also agreeing to be contacted with a summary of the results of the study once the data has been analysed. If you would like to receive information about the results or receive a copy of the final report, please contact Annaliese Jowsey for more information.

The email address you provide will be stored securely, and will not be linked to any of the survey responses you provided. Following 12 months of the draw, all email addresses entered will be destroyed

Appendix 16

SPSS Output – Tests of Normality

Measure	Subscale	Mean	Skewness	Kurtosis	Kolmogorov-Smirnoff	Shapiro-Wilk
Professional Quality of Life (ProQOL)	Compassion Satisfaction	36.68	-.294	-.383	.000	.089
	Burnout	25.18	.315	.351	.200	.515
	Compassion Fatigue	22.55	.621	.225	.017	.010
Trait Meta Mood Scale (TMMS)	Repair	21.64	-.348	.028	.016	.122
	Clarity	37.78	.235	-.189	.111	.247
	Attention	46.50	-.445	.461	.192	.171
Los Angeles Symptom Checklist (LASC)	PTSD Symptoms	14.55	1.198	1.235	.000	.000
Emotion Regulation Questionnaire (ERQ)	Cognitive Appraisal	27.84	-.582	.609	.002	.008
	Expressive Suppression	14.41	.117	-.761	.020	.046