Doctorate in Clinical Psychology | Lancaster University

Submitted in partial fulfilment of the Lancaster University Doctorate in Clinical Psychology

Doctoral Thesis:

The Relationships between Nurses' Emotional Intelligence, Attachment Style, Burnout, Compassion and Stigma

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Total Word Count

Section	Main Text	Abstracts, Tables, Appendices and References	Total
Abstract	**300**	**-**	**300**
Literature Review	**7,996**	**12,685**	**20,681**
Research Paper	**7,579**	**2,990**	**10,569**
Critical Appraisal	**3,384**	**669**	**4,053**
Ethics	**4,851**	**-**	**4,851**
Total	**24,110**	**16,344**	**40,454**

Abstract

This thesis included two main papers; a systematic literature review and a cross-sectional research paper. The literature review aimed to synthesise the findings of quantitative research into the relationship between emotional intelligence (EI) and burnout in nursing staff. The research paper aimed to explore the relationships between EI, attachment style, compassion satisfaction/fatigue and mental health stigma in nurses. Burnout and mental health stigma have been noted in nursing staff, which is of concern as both phenomena have been linked to negative outcomes.

Four electronic databases were systematically searched and a total of 17 papers were included in the review. Papers were quality appraised, and their findings were synthesised. The results highlighted negative correlations between EI and burnout, and EI was found to act as a significant negative predictor of burnout.

A final sample of 225 student and qualified nurses were included in the research paper. Following completion of measures of EI, attachment style and compassion fatigue, participants were presented with a vignette about a service-user with either a diagnosis of schizophrenia or asthma. They were then asked to complete a measure of stigma in relation to the service-user they had just read about. T-tests, correlations, mediation and moderation analyses were conducted. No significant differences in stigma scores were found between the two vignette groups. However, various other between-group differences were identified, and significant correlations were found. Intrapersonal EI was also found to mediate the relationship between avoidant attachment style and compassion satisfaction, and anxious attachment style and compassion fatigue.

Both papers highlighted the potential benefit of EI training and the importance of clinical supervision for nurses. This recommendation was critically appraised in the third

section of the thesis, in relation to the current economic and political context. As such, the role of clinical psychologists in this field was explored.

Declaration

The work presented for this doctoral thesis is my own, except where reference is made. The work has not been submitted for any other academic award.

Name: Sophie Valavanis

Signature:

Date: 25th October 2019

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I would like to thank the participants who volunteered their time to take part in this study, as well as those who could not take part but shared the survey with those who could. A big thank you to Sirah and Kyri, two excellent nurses who were kind enough to educate me on the various routes into nursing, and to Joanna who provided me with information about the many nursing roles and offered her feedback on the survey during its development.

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Finally, an enormous thank you to Will, my Mum, Dad, Alex, and my wonderful friends. Without your endless love, encouragement, understanding and patience, this would not have been possible.

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Section One: Systematic Literature Review

Examining the relationship between Emotional Intelligence and Burnout in Nursing Staff: A Systematic Literature Review

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Target journal: Journal of Clinical Nursing

Abstract

Aims and Objectives: This study aimed to synthesise the findings of quantitative research into the relationship between emotional intelligence (EI) and burnout in nursing staff.

Background: Nurses are at particular risk of developing burnout and rates are high. This is of concern as burnout has numerous negative physical, psychological, organisational and patient outcomes. Research in other professional groups has identified a negative relationship between global EI and burnout.

Design: A systematic literature review was undertaken.

Method: The guidelines outlined by the NHS Centre for Reviews and Dissemination (2009) and the Preferred Reporting Items for Systematic Reviews and Meta-Analyses were followed. Papers were included if they met the following inclusion criteria: 1) published in English; 2) published in a peer-reviewed journal; 3) included quantitative analysis of the relationship between burnout and EI; and 4) included nursing staff as participants. Papers that solely examined academic burnout were excluded, as were those which included other healthcare professionals in their analysis and did not specify which results related to nursing staff. The quality of included papers was appraised using The National Institute of Health's quality assessment tool, prior to data extraction and synthesis.

Results: Seventeen papers were included in the review, of which the majority were cross-sectional in design. Results highlighted negative correlations between global EI and burnout, with further relationships identified between individual dimensions. EI was found to act as a significant negative predictor of burnout.

Conclusions: Correlations between global measures of EI and burnout ranged from weak to strong, with moderate relationships the most frequently reported.

Relevance to Clinical Practice: This highlights the potential role for providing EI training and ensuring good clinical supervision for nursing staff.

Keywords: emotional intelligence, emotional competence, burnout, nurses, nursing staff

What does this paper contribute to the wider global clinical community?

- These findings may be consistent with other professional groups, and similar reviews should be undertaken accordingly.
- These findings highlight that it may be possible to reduce the risk of burnout occurring, suggesting that clinical settings may be able to offset the cost and implications of burnout, by investing in preventative measures to foster and nurture emotional intelligence.

Introduction

International research suggests that healthcare professionals experience high levels of stress and emotional strain in the workplace (Khamisa, Peltzer, & Oldernburg, 2013; Walkiewicz & Tartas, 2017). Long-term exposure to this job-related stress makes healthcare professionals highly vulnerable to burnout (Chou, Li, & Hu, 2014; Maslach, 2003; Maslach & Schaufeli, 1993). Nurses have been found to be a particularly at risk group, and experience higher levels of burnout than other healthcare professionals (Chopra, Sotile, & Sotile, 2004). This is thought to be linked to a high workload involving protracted, highly emotive contact with patients (Aiken, Clarke, Sloane, Sochalski, & Silber, 2002; Levert, Lucas, & Ortlepp, 2000; Maslach, 2003). It has also been posited that the lack of autonomy nurses often experience in their work, the lack of clarity around expected occupational tasks, high work pressures and a lack of support from superiors may render them particularly susceptible to burnout (Augusto Landa & López-Zafra, 2010).

Origins, Definition and Measurement of Burnout

The term ‘burnout’ emerged as an important concept in human service work (a broad, generic term for a range of different professionals who work with people, in order to alleviate stress or suffering and overcome adversity) in the 1970s (Schaufeli, Leiter, & Maslach, 2009). Herbert Freudenberger (1974) first used the term when referring to the loss of motivation experienced by volunteers working with drug users, which resulted in physical, emotional, cognitive and behavioural changes. At a similar time, Christina Maslach (1976) was undertaking social psychology research with human service workers, aiming to understand how they coped with emotional arousal. She noted that they described often feeling emotionally exhausted, having negative feelings about their clients and experiencing resultant ‘crises’ in their professional competence, which they referred to as ‘burnout’ (Maslach, 1976; Schaufeli et al., 2009).

Maslach and her colleagues (Maslach & Jackson, 1981; Maslach, Jackson, & Leiter, 1996) posited that burnout was a phenomenon with three distinct but interrelated dimensions: 1) exhaustion (reduced energy, depletion, debilitation and fatigue); 2) cynicism (depersonalisation, negative attitudes, irritability and withdrawal) and; 3) inefficiency (lack of sense of accomplishment, diminished productivity and low morale). There are differing theories regarding how these three dimensions of burnout may be related and/or interact (see Maslach & Leiter, 2016 for an overview) and it has been suggested that both individual strain within the context of the work environment, along with the individual's perception of the self and others is relevant (Maslach & Leiter, 2008). Others have argued that burnout can be best understood in relation to a central feature; exhaustion (Kristensen, Borritz, Villadsen, & Christensen 2005; Pines & Aronson, 1988; Schaufeli & Greenglass, 2001). However, Maslach and Leiter (2016) argue that this conceptualisation misses crucial aspects of the phenomenon, and their research using latent profile analysis suggests that exhaustion alone does not appear to be a sufficient proxy for burnout.

An alternative conceptualisation of burnout postulates that the phenomenon has two core dimensions; exhaustion and disengagement from work. This two-factor model conceptualises exhaustion as a consequence of prolonged exposure to job demands, which can include not only affective, but also physical and cognitive aspects. Disengagement has some similarities to cynicism and refers to the distancing of oneself from one's work, work objects and work content (Demerouti & Bakker, 2008).

Prevalence and Consequences of Burnout in Nurses

In a large study of 23,159 nurses from 10 European countries, high rates of burnout were found in more than quarter of the sample. The highest percentage of high scorers was in the UK, with 42% experiencing high levels of burnout (Heinen et al., 2013). However, it is of note that burnout was assessed in this study using the Emotional Exhaustion subscale of the

Maslach Burnout Inventory (Maslach, Jackson, & Leiter, 1996), given Maslach and Leiter's argument that exhaustion alone may not be a sufficient proxy for burnout. Despite this potential methodological flaw however, the findings remain concerning as emotional exhaustion is a key aspect of burnout, which has been linked to numerous negative physical and psychological consequences, including gastrointestinal issues, headaches, type 2 diabetes, coronary heart disease, respiratory issues and mortality below the age of 45, insomnia, depressive symptoms, the use of psychotropic and antidepressant medication and hospitalisation for psychological distress (Albieri & Salvagioni, 2017). Burnout has also been linked to occupational consequences, including job dissatisfaction, absenteeism (Albieri & Salvagioni, 2017), medical errors (Dewa, Loong, Bonato, & Trojanowski, 2017) negative attitudes towards clients, the job and the organisation, poorer relationships with colleagues, and withdrawal from clients (Cordes & Dougherty, 1993). As this phenomenon can have significant negative consequences on the physical and psychological wellbeing of staff, coupled with a negative impact on service-users' wellbeing and organisational structures, examining factors associated with burnout is an important area of research.

Background

Antecedents of Burnout

The majority of research classifies the antecedents of burnout into two general categories: situational factors, such as the work environment and overload, and individual factors, such as psychological factors (Bakker, Demerouti, & Sanz-Vergel, 2014). Various organisational factors appear to be associated with burnout in healthcare professionals, including high workload, lack of control over the work environment, inadequate rewards, poor peer relationships and supervisor leadership style (Khamisa et al., 2013; Moss, Good, Gozal, Kleinpell, & Sessler, 2016).

However, it is of note that while some staff who are subject to these factors, experience burnout, others do not, which may indicate the importance of other, individual factors (West, 2015). Individual factors refer to individual differences or personal characteristics (Bakker et al., 2014). Although there is less research regarding psychological factors (West, 2015), a number of studies have highlighted the possible role that personality may play in burnout. For example, self-criticism, perfectionism, overcommitment, negative affectivity, and certain Big Five personality characteristics have been identified as risk factors for burnout (Moss et al., 2016; Shanafelt, 2009; West, 2015). Conversely, extraverted, conscientious and agreeable individuals are less likely to experience burnout (Cañadas de la Fuente et al., 2015; Gama, Barbosa, & Vieira, 2014).

Alarcon, Eschleman, and Bowling (2009) posited that personality's role in burnout may occur as a result of its influence on both the subjective and objective nature of one's work environment. For example, one's personality may influence ones' perception of high workload as either threatening or positively challenging. Furthermore, personality may play an indirect role in determining the level of situational burnout factors that one experiences in their work, by influencing the line of work that one chooses to enter. Thirdly, personality may influence one's ability to cope in challenging work situations (Bakker et al., 2014). In a metanalysis, Alarcon et al. (2009) found that four of the Big Five personality factors (emotional stability, extraversion, conscientiousness, and agreeableness) were negatively correlated with burnout. They also found links between burnout and 'lower-order' personality factors, including self-esteem, self-efficacy, positive affectivity and optimism, among others.

Emotional Intelligence

One psychological construct that has been linked to personality is Emotional Intelligence (EI). There are three basic models of EI: the *ability* model, the *trait* model, and the *mixed* model. However, the trait model is considered by some to be a subset of the mixed

model, as opposed to a distinct construct (Peter, 2010). The concept of EI was first proposed by Salovey and Mayer (1990) as the *ability* to appraise, regulate, express and respond to emotional information in the self and others, whilst *trait* EI has been defined as "a constellation of emotional self-perceptions located at the lower levels of personality hierarchies" (Petrides, 2010, p. 137); that is, the conceptualisation of EI as a personality trait as opposed to an ability. Mixed models tend to view EI as a combination of cognitive abilities and personality traits. The models also vary with regards to their measurement, and while *ability* models traditionally assess emotional abilities using ability tests, the *mixed* models and *trait* models focus on competencies, skills, and traits using self-report measures (Peter, 2010). As other 'lower-order' personality factors have been linked to burnout, so too has EI.

Link between Emotional Intelligence and Burnout

A recent meta-analysis found links between EI and attitudes towards work (Miao, Humphrey, & Oian, 2016) and research suggests that individuals with higher EI have less job stress (Yamani, Shahabi, & Haghani, 2014). Furthermore, EI has been linked to various adaptive coping strategies and found to have a negative relationship with ineffective coping strategies (Moradi, Pishva, Ehsam, Hadadi, & Pouladi, 2011). This is of note as burnout has been associated with the use of non-adaptive coping strategies (Adriaenssens, de Gucht, & Maes, 2015). There have been numerous research studies investigating the link between EI and burnout in various groups, including university students (Cazan & Năstasă, 2015), public service workers (Lee, 2017), teachers (Mérida-López & Extremera, 2017), doctors (Weng et al., 2011), and counselling students (Testa & Sangganjanavanich, 2016).

Although results from these studies generally support the assertion that there is a negative correlation between EI and burnout, the individual facets of EI also appear to be of interest. Lee (2017) investigated how emotional intelligence related to burnout and job satisfaction in public service workers in the United States. He found that emotion regulation

was significantly and negatively related to burnout, and that self-awareness was significantly and positively related to job satisfaction. Mérida-López and Extremera (2017), investigated the link between EI and burnout in teachers, and found some positive associations between emotional attention (how much attention individuals pay to their inner feelings and emotions) and emotional exhaustion. Additionally, they noted some gender differences and additional factors that mediated relationships between EI and burnout dimensions, such as stress, anxiety, workplace support and positive emotions.

Elsewhere, research has found that having an increased emotional awareness and ability to regulate emotions may result in individuals with higher levels of EI being better able to manage stressful situations and experience lower levels of stress (Salovey, Bedell, Detweiler, & Mayer, 1999; Zeidner, Hadar, Matthews, & Roberts, 2013). However, in a non-systematic review of the literature regarding EI in nursing, Augusto Landa and López-Zafira (2010) summarised that individuals with lower stress and burnout are those who have moderate to low scores in emotional attention, and high scores in emotional clarity (the perceived ability to understand and discriminate between feelings) and emotional repair (the perceived ability to regulate moods and repair negative emotions). They posited that individuals with high emotional attention tend to monitor the progress of their moods, but if this is not accompanied by the ability to respond to them appropriately, this can lead to or maintain low mood. Conversely, those with high emotional clarity and repair can identify their emotions and respond to them appropriately, allowing them to use more effective coping strategies during stressful situations.

Similarly, in a review of the literature, Davis and Nichols (2016) noted that there are some contexts where very high levels of EI can have negative interpersonal and intrapersonal effects. For example, they found that attention to emotions was positively associated with psychological distress, such as greater negative emotional impact in victims of bullying, and

higher levels of symptomatology in people with certain psychiatric diagnoses. Their findings supported those of Augusto Landa and López-Zafira (2010), suggesting that this appeared to occur as a result of very high levels of emotional perception or awareness of negative emotions, combined with reduced self-efficacy or competence in managing the emotional distress. They therefore posited that, particularly for intrapersonal outcomes, a balance between constituent EI components is optimal.

Rationale for the Current Review

Given the prevalence of burnout in nurses and the multiple associated negative consequences, gaining an improved understanding of its correlates is a valuable area of research. There is a wealth of existing literature focusing on the organisational and situational factors contributing to burnout, with an underrepresentation of research exploring the individual differences between the professionals who experience it (West, 2015).

Research suggests that personality factors may be correlated with burnout, with EI being one of these. Although there has been an increase in research related to associations between burnout and EI, there remains limited research into this topic in nursing staff. However, EI has been linked to resilience in nurses, and it has been proposed that this interaction may protect against burnout (Çam & Büyükbayram, 2015). Existing research in the field of nursing and in other professional groups suggests that EI may be an important factor related to burnout, however the precise nature of this relationship is unclear, particularly with regards to awareness of one's own emotions.

Comparisons between existing findings are made increasingly challenging given the variety of tools that are used to measure burnout and EI in the literature base. Systematic literature reviews are valuable in integrating the existing evidence base and establishing whether findings across studies are consistent and can be generalised (Mulrow, 1994), highlighting the need for a review of this nature for this topic.

Aim

The aim of the present literature review therefore was to answer the following research question: What are the relationships between EI and burnout in nursing staff?

Method

A quantitative systematic literature review was undertaken. This was guided by the recommendations provided by the NHS Centre for Reviews and Dissemination (CRD; 2009) and was reported according to the guidelines outlined by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA; Liberati et al., 2009; Moher, Liberati, Tetzlaff, & Altman, 2010).

Literature Search

A subject specialist librarian was consulted regarding the appropriateness of databases and concept search terms. Academic Search Ultimate, Cumulative Index to Nursing and Allied Health (CINAHL) Complete, MEDLINE Complete, and psycINFO electronic databases were searched on 24th January 2019. Two search concepts were identified; a) burnout and b) emotional intelligence. Neither a search concept relating to nursing staff, nor one relating to data analysis methods were included in the initial search, to reduce the risk of missing relevant papers. However, papers were excluded at a later stage if participants did not include nursing staff, or if they did not include quantitative methodology. The free-text search terms used for the first concept were [burnout OR burn-out OR burned-out or "burn out" OR "burned out" OR "vicarious* trauma*" OR "secondary trauma*" OR "compassion fatigue" OR stress]. Terms regarding vicarious trauma, secondary trauma and compassion fatigue were included in this search term, as literature suggests that the terms are often used interchangeably with burnout, and it is not clear that they relate to different constructs (Stamm, 2010). However, none of the final papers included in the review used these terms.

The free-text search terms for the second concept were [“emotional* intelligen*” OR “emotional* competen*” OR “emotional* matur*”]. Various associated MESH terms, subject headings and thesauri were applied to each database. See Appendix A for full list of terms used. No limits were set on the date or language of publication, although papers were later excluded if they were not written in or translated into English. Each concept was searched for separately before being combined by “AND” Boolean operators, resulting in a total of 3,147 papers (Academic Search Ultimate = 975; CINAHL Complete = 360; MEDLINE complete = 721; psycINFO = 1,091). Duplicate papers were automatically identified and removed using the referencing software ENDNOTE v 9.0, resulting in 2,385 papers. Manual reviewing identified a further 185 duplicate papers which were removed, resulting in a total of 2,200 papers (see Figure 1 for flowchart).

[Insert Figure 1 here]

Paper Inclusion

Four inclusion criteria were identified: 1) published in English; 2) published in a peer-reviewed journal; 3) included quantitative analysis of the relationship between burnout and emotional intelligence; and 4) included nursing staff as participants (including certified nursing aides, auxiliary nurses, enrolled nurses, staff nurses and registered nurses). The first two inclusion criteria minimised time and cost implications of translating papers and accessing unpublished research, and publication in a peer-reviewed journal was deemed to be indicative of higher quality research. Papers were excluded if they solely examined academic burnout.

Abstracts and titles of all 2,200 papers were reviewed for the above criteria, following which 2,153 papers were deleted. The remaining 47 papers were examined in full, as it was unclear whether they met the inclusion criteria. Emails were sent to the authors of 11 of these

papers, which met all other inclusion criteria but also met one or more of the following criteria: 1) EI or burnout were measured, but the relationship between them was not examined; 2) other healthcare professionals were included in the study and it was unclear whether participants included nursing staff or; 3) nursing staff were included in the study, along with other healthcare professionals, but it was not specified which results related specifically to nursing staff. Where appropriate, these emails requested clarification about whether nursing staff had been included in the sample, and for data relating to the relationship between EI and burnout in nursing staff only. Six of these studies were excluded from the review as the authors did not reply to the email, three were excluded as nursing staff were not included in the sample, and one paper was excluded as the author confirmed that the requested data was available in another study. The final paper (Bidlan & Sihag, 2014) was included in the review as the authors were able to provide the relevant data.

A total of 32 papers were deleted after reading the full text and emailing relevant authors, as they did not meet the inclusion criteria. This resulted in 15 papers to be included in the review. The reference sections of these papers were hand searched, identifying two further relevant studies (Afsar, Cheema, & Masood., 2017; Koronaiou & Antoniou., 2018) which were also included (see Figure 1).

Quality Appraisal

There is no current ‘gold standard’ for the assessment of quality in qualitative or quantitative research (Greenhalgh & Brown, 2014). As the studies in the current review included both cross-sectional and longitudinal methodology, a tool was chosen that could assess the quality of both study types (The National Institute of Health’s quality assessment tool for observational cohort and cross-sectional studies (2014) was used). This tool was developed with the aim of identifying and evaluating potential flaws in study methods or

implementation, including sources of bias, confounders, study power and the strength of causality. It consists of 14 items that are rated as “yes”, “no”, or “cannot determine/not reported/not applicable”, and consideration is then given to the risk of potential bias that each “no” response could introduce. The tool is not designed to be a tally chart resulting in a numerical number or score, but instead to guide thinking about the quality and risk of bias in each study. Following consideration of each item, a rating of ‘good’, ‘fair’ or ‘poor’ is given for each paper (see Appendix B for items and scoring guidance).

Data Extraction and Synthesis

Information regarding publication dates, country of research, methodological design, research question, sample size, participants’ demographic information (mean age, gender, job title and place of work), and employed measures of EI and burnout were extracted from each study. Information regarding which methods of statistical analyses had been employed was extracted, and whether individual or global dimensions of EI and burnout had been included in the analyses.

The size and direction of correlations between individual and global dimensions of EI and burnout were extracted from relevant papers. As numerous measures of EI were employed by the included studies, similar dimensions of EI were grouped together for ease of comparison of findings. These findings were summarised using a box-score approach, in which the direction and significance of correlations were tabulated (Green & Hall, 1984). Further relevant findings relating to the relationship between EI and burnout were extracted, including the method of analysis used, the statistical data reported, and which other variables were included in relevant explanatory models.

The study data were not sufficiently homogenous for the results to be combined into a meta-analysis for the following reasons (Blundell, 2017): 1) participants across the studies

were dissimilar with regards to settings that they worked in and qualification status; 2) study design varied across studies, including both cross-sectional and longitudinal cohort designs and; 3) different measures of EI and burnout were used. A narrative synthesis was therefore conducted, integrating and summarising the findings of each paper (Johnson, Panagioti, Bass, Ramsay, & Harrison, 2016).

Results

Study characteristics

A total of 17 papers met the inclusion criteria (see Table 1). Publication dates for all papers ranged between 2011 and 2019, except two (Gerits, Derksen, & Verbruggen, 2004; Mikolajczak, Menil, & Luminet, 2007) which were published in 2004 and 2007. The majority of studies (n=9) were conducted within Europe, with the remaining eight undertaken in Asia and Africa. All studies were cross-sectional, with the exception of three (de Looff, Didden, Embregts, & Nijmam, 2019; Mikolajczak et al., 2007; Szczygiel & Mikolajczak, 2018), which used longitudinal cohort study designs. None of the studies used a comparison group.

[Insert Table 1 here]

Sample sizes ranged from 60 to 1307, with a total combined sample size across all studies of n=5,134. Twelve studies described their participants' job-roles as 'nurses', two paper described participants as 'nursing staff' (De Looff et al., 2019), one specified that participants consisted of auxiliary, enrolled, and registered nurses (Görgens-Ekermans & Brand, 2012), one included both graduate nurses and trained care assistants (Nespereira-Campuzano & Vázquez-Campo 2017), and one included only Certified Nursing Aides (del Mar Molero Jurado, del Carmen Pérez-Fuentes, Gázquez-Linares, del Mar Simón-Márquez, & Martos Martinez, 2018). All studies except two (Afsar et al., 2017; Hong & Lee, 2016)

reported the gender of their participants. In the studies which did report gender, the majority of participants were female, ranging from 50-100%.

All studies measured EI, except one which measured emotional competence (Garrosa, Moreno-Jiménez, Rodríguez-Muñoz, & Rodríguez-Carvajal, 2011). Of the measures of EI, eleven assessed trait EI, three assessed ability EI (Afsar et al., 2017; Bidlan & Sihag, 2014; Kaur, Sambasivan, & Kumar, 2013), and the remaining three assessed mixed-model EI (Chao, Shih, & Hsu, 2016; Delpasand, Nasiripoor, Raiisi, & Shahabi, 2011; Samaei et al., 2017). See Table 2 for descriptions of included EI measures.

[Insert Table 2 here]

All studies measured burnout, 12 of which used the Maslach Burnout Inventory (Maslach et al., 1996), either the standard version or the version for human service workers, in either the original language or translated. The remaining burnout assessment tools included the Cuestionario Breve de Burnout [Brief Burnout Questionnaire; CBB] (used by del Carmen Pérez-Fuentes, del Mar Molero-Jurado, Gázquez-Linares, & del Mar Simón-Márquez, 2019; del Mar Molero Jurado et al., 2018), The Nursing Burnout Scale (used by Garrosa, et al., 2011), Moreno's brief questionnaire on burnout syndrome (used by Nespereira-Campuzano & Vázquez-Campo 2017), and the Oldenburg Burnout Inventory (used by Szczygiel & Mikolajczak, 2018). All of these measures are in accordance with the three aspects of burnout measured by the Maslach Burnout Inventory (emotional exhaustion, depersonalization, and personal accomplishment), with the exception of the Oldenburg Inventory, which only assesses exhaustion and disengagement from work (see Table 3 for descriptions of included measures.)

[Insert Table 3 here]

Quality Appraisal

Only five out of the 17 papers were given a quality rating of 'good' (Chao et al., 2016; De Looff et al., 2019; Hong & Lee, 2016; Samaei et al., 2017; Szczygiel & Mikolajczak, 2018), with a further ten receiving a rating of 'fair' and the remaining two papers achieving a 'poor' rating (del Carmen Pérez-Fuentes et al., 2019; Koronaiou & Antoniou, 2018). However, it should be noted that even those papers scored 'good' and 'fair' may still be influenced by bias, as all studies had some methodological flaws (see Table 4).

[Insert Table 4 here]

All papers except one (Bidlan & Sihag, 2014) provided a clear research aim for their studies and all recruited their participants from the same or similar populations, with eligibility criteria applied uniformly. However, only four papers justified their sample size, all of which received a rating of 'good' in the appraisal. Ten of the studies were given a 'no' response for item 2, which related to the clear specification of the study population, as the majority did not specify the time period during which the study participants were recruited. All of the cohort studies had a follow-up rate of less than 80%. It is noteworthy that the guidance for the tool states that "in cohort studies, it is crucial that the population at baseline is free of the outcome of interest", however this is not the case for any of the cohort studies included in the present review, which may limit the inferences that can be made from their findings.

Data Analysis and Findings

All papers except one (Gerits et al., 2004) provided descriptive statistics for the mean and standard deviation of burnout scores. Six of these papers (Afsar et al., 2017; Chao et al., 2016; De Looff et al., 2019; del Carmen Pérez-Fuentes et al., 2019; del Mar Molero Jurado et al., 2018; Kaur et al., 2013) provided only the mean global burnout score, whilst the

remaining ten provided a break-down by dimension. Del Carmen Pérez-Fuentes et al. (2019) and del Mar Molero Jurado et al. (2018) compared the mean global burnout score for nurses with different contract types and gender but did not provide an overall mean score for the whole sample.

All papers except two (del Carmen Pérez-Fuentes et al., 2019; del Mar Molero Jurado et al., 2018) provided descriptive statistics for the mean and standard deviation of EI scores. Eight of these papers (Afsar et al., 2017; Chao et al., 2016; de Looff, 2019; Garrosa et al., 2011; Kaur et al., 2013; Koronaiou & Antoniou, 2018; Mikolajczak et al., 2007; Szczygiel & Mikolajczak, 2018) provided only the mean global EI score, whilst the remaining nine provided a break-down by dimension. Gerits et al. (2004) grouped the mean global EI scores by gender but did not provide mean scores for the whole sample.

Correlations

All studies except one (Samaei et al., 2017) conducted correlation analysis. According to Cohen's (1988) conventions, a correlation coefficient of 0.1 represents a small or weak association, 0.3 a moderate association, and 0.5 a large or strong association between two variables. A box-plot summary of correlation results is provided in Table 5.

[Insert Table 5 here]

Global EI with global burnout. Seven papers reported correlations between global EI and global burnout. Six found negative correlations (Afsar et al., 2017; de Looff, 2019; Hong & Lee, 2016; Kaur et al., 2013; Mikolajczak et al., 2007; Szczygiel & Mikolajczak, 2018)., and one (Chao et al., 2016) found a non-significant result. Reported associations range from weak (r= -0.18) to strong (r= -0.58), with moderate associations reported most frequently. The quality of the studies reporting these relationships range from 'fair' to 'good', suggesting that adequate weight can be given to the findings. Theories about why Chao et al.

(2016) did not find a significant relationship were not explored in the paper, although they did acknowledge that their findings were not in line with previous research, and that future research may benefit from a larger sample size than was included in their study (n=98). Unfortunately, cut-off and normative scores were not provided for the burnout measure that was used in this study, but it is of note that each item was scored on a 5-point Likert scale, with 1= never, and 5= always and the mean burnout score of their sample was 2.10. It is possible that this may reflect a low mean burnout score in their sample. Their participants were also all recruited from one hospital, which may limit the generalisability of their findings.

Global EI with individual burnout dimensions. Seven papers reported correlations between global EI and the individual dimensions of burnout (Delpasand et al., 2011; Garrosa et al., 2011; Gerits et al., 2004; Görgens-Ekermans & Brand, 2012; Koronaiou & Antoniou, 2018; Mikolajczak et al., 2007; Szczygiel & Mikolajczak, 2018). All papers except one (Görgens-Ekermans & Brand, 2012) found significant negative correlations between global EI and emotional exhaustion, which ranged from weak to moderate in strength (r= -0.21 to -0.49).

All papers except one (Delpasand et al., 2011) also reported significant negative correlations between depersonalisation and global EI, which ranged between (r= -0.22 to -0.33). Gerits et al. (2004) reported significant negative correlations between global EI and both emotional exhaustion and depersonalisation for women, but non-significant results for men.

Significant positive correlations were found between global EI and personal accomplishment in all of the six papers that examined this relationship (Delpasand et al.,

2011; Garrosa et al., 2011; Gerits et al., 2004; Görgens-Ekermans & Brand, 2012; Koronaiou & Antoniou, 2018; Mikolajczak et al., 2007), ranging from *(r*=0.25 to 0.64).

The studies reporting these findings mostly achieved a 'fair' quality rating. One of the studies (Koronaiou & Antoniou, 2018) achieved a 'poor' rating, However, given that the directions and effect sizes of the correlations reported were similar to those reported by the other five studies, adequate weighting can be given to these findings.

Burnout with individual EI dimensions. As various measures of EI were used by the papers included in this review, it should be noted that numerous associations between specific individual dimensions were only reported by one study each. Therefore, for ease of comparison of findings and to increase the weighting that can be given to findings, similar dimensions of EI have been grouped together in Table 6. The following significant correlations were found.

[Insert Table 6 here]

Intrapersonal EI. Global burnout was found to have weak, negative correlations with intrapersonal EI (del Carmen Pérez-Fuentes et al., 2019; del Mar Molero Jurado et al., 2018). Six papers reported the relationships between intrapersonal EI and emotional exhaustion, and a combination of non-significant and weak, negative correlations were found. The dimensions in the intrapersonal EI group which had significant correlations with emotional exhaustion included: self-consciousness, self-monitoring, self-motivation, intrapersonal skills, and emotionality (Delpasand et al., 2011; Gerits et al., 2004; Koronaiou & Antoniou, 2018).

Six papers reported correlations between depersonalisation and intrapersonal EI and a combination of non-significant and weak negative correlations were found. The dimensions in the intrapersonal EI group which had significant correlations included: self-awareness,

motivating oneself, emotionality, and intrapersonal skills (Bidlan & Sihag, 2014; Gerits et al., 2004; Koronaiou & Antoniou, 2018).

Seven papers reported correlations between personal accomplishment and intrapersonal EI, with mostly weakly positive correlations found, including between personal accomplishment and self-awareness, self-monitoring, emotional recognition and expression, clarity in discrimination of feelings, and intrapersonal skills in women (Bidlan & Sihag, 2014; Delpasand et al., 2011; Gerits et al., 2004; Görgens-Ekermans & Brand, 2012; Nespereira-Campuzano & Vázquez-Campo, 2017). Moderate correlations were found between personal accomplishment and self-consciousness, motivating oneself, and emotionality (Bidlan & Sihag 2014; Delpasand et al., 2011; Koronaiou & Antoniou, 2018).

Nespereira-Campuzano and Vázquez-Campo (2017) used a measure which also found significant moderate negative correlations between organisational causes of burnout and clarity in discrimination of feelings.

Interpersonal EI. Global burnout was found to have weak, negative correlations with interpersonal EI (del Carmen Pérez-Fuentes et al., 2019; del Mar Molero Jurado et al., 2018). Five papers reported correlations between emotional exhaustion and dimensions in the interpersonal EI group. Results were mostly non-significant. However, weak to moderate negative correlations were found between emotional exhaustion and emotionality and sociability (Koronaiou & Antoniou, 2018).

Five papers reported correlations between depersonalisation and dimensions in the interpersonal EI dimensions. Correlations were mostly non-significant, however weak negative correlations were found between depersonalisation and emotionality, sociability and interpersonal skills in women (Gerits et al., 2004; Koronaiou & Antoniou, 2018).

Five papers reported correlations between personal accomplishment and interpersonal EI, with almost all reporting positive correlations. Weak positive correlations were mostly reported, including with: empathy and social skills, sociability, handling relationships, and interpersonal skills in women (Bidlan & Sihag, 2014; Delpasand et al., 2011; Gerits et al., 2004; Koronaiou & Antoniou, 2018). Moderately strong positive correlations were reported with understanding others' emotions and emotionality (Görgens-Ekermans & Brand, 2012; Koronaiou & Antoniou, 2018).

Coping with upsetting situations, problems and change. Global burnout was found to have weak, negative correlations with stress management skills and weak to moderate associations with amount of adaptability (del Carmen Pérez-Fuentes et al., 2019; del Mar Molero Jurado et al., 2018).

Five papers reported correlations between emotional exhaustion and dimensions in this group, finding a combination of non-significant and negative correlations. Moderately strong negative correlations were found with stress management skills, emotional control, managing emotions, self-control, amount of adaptability and emotional management (Bidlan & Sihag, 2014; Gerits et al., 2004; Görgens-Ekermans & Brand, 2012; Koronaiou & Antoniou, 2018).

Six papers reported correlations between depersonalisation and dimensions in this group. Some non-significant relationships were reported, but the majority were weak to moderate negative correlations. The dimensions in this group that had significant correlations with depersonalisation included self-control, managing emotions, emotional management and emotional control, amount of adaptability and stress management skills in women (Bidlan & Sihag, 2014; Gerits et al., 2004; Görgens-Ekermans & Brand, 2012; Koronaiou & Antoniou, 2018).

Five papers reported correlations between personal accomplishment and dimensions in this group. The majority reported weak to moderate positive correlations, including with stress management skills and amount of adaptability in women, self-control, emotional management, emotional control, and managing emotions (Bidlan & Sihag, 2014; Koronaiou & Antoniou, 2018; Gerits et al., 2004; Görgens-Ekermans & Brand, 2012).

Nespereira-Campuzano and Vázquez-Campo (2017) used a measure which also found significant moderate negative correlations between organisational causes of burnout and mood repair.

Satisfaction with one's life. Global burnout was found to have moderate, negative correlations with general mood (del Carmen Pérez-Fuentes et al., 2019; del Mar Molero Jurado et al., 2018).

Two papers reported correlations between dimensions in this group and individual dimensions of burnout (Gerits et al., 2004; Koronaiou & Antoniou, 2018). Emotional exhaustion had weak negative correlations with general mood in women and wellbeing (Gerits et al., 2004; Koronaiou & Antoniou, 2018), and non-significant correlations with general mood in men (Gerits et al., 2004). Depersonalisation had weak negative correlations with general mood in women and wellbeing (Gerits et al., 2004; Koronaiou & Antoniou, 2018) and non-significant correlations with general mood in men (Gerits et al., 2004). Personal accomplishment was weakly positively correlated with general mood in both men and women (Gerits et al., 2004) and moderately positively correlated with wellbeing (Koronaiou & Antoniou, 2018).

Further Analysis of the Relationship between EI and Burnout

All studies except seven (Bidlan & Sihag, 2014; Chao et al., 2016; Delpasand et al, 2011; Gerits, 2004; Görgens-Ekermans et al., 2012; Kaur et al., 2013; Koronaiou &

Antoniou, 2018) reported significant regression, mediation or path analysis findings of the effects of EI on burnout. These included structural equation, logistic regression and multilevel regression models, hierarchical multiple regressions, path analysis, mediation analysis and moderated hierarchical regression analysis. EI was found to have a significant negative effect on burnout. Afsar et al. (2017) and Samaei et al. (2017) reported standardised regression coefficients of the effect of EI on burnout, of (β= -0.21; p< 0.01) and (β= -0.51; p<0.01) respectively.

Various studies also included other variables in their explanatory models. In De Looff et al.'s (2019) multilevel regression model, EI (-0.05; p<0.01), along with time, job stress, aggression, neuroticism & altruism accounted for 54% of the variance in burnout. Garrosa et al. (2011) undertook hierarchical multiple regression and found that emotional competence did not significantly predict emotional exhaustion. However, emotional competence (β= -0.18; p<0.001) along with role stress and hardy personality, accounted for 33% of the variance of depersonalisation. They also found that emotional competence (β= -0.14; p<0.01) along with role stress, optimism and hardy personality, accounted for 37% of the variance of lack of personal accomplishment. Mikolajczak et al. (2007) conducted hierarchical regression and found that EI (β= -0.42; p<0.01) significantly predicted burnout, adding an additional 8% of the variance, over and above the predictions of the five-factor model of personality. Hong and Lee (2016) performed path analysis, which indicated that EI (β= -0.29; p<0.001), along with emotional labour and job stress, directly affected burnout, with a total explanatory power of 37.2%. Szczygiel and Mikolajczak (2018) performed a moderated hierarchical regression analysis, and found that EI (-0.18; p<0.05), along with sadness related emotions and trait negative affectivity, accounted for 21% of the variance of burnout.

Both del Carmen Pérez-Fuentes et al. (2019) and del Mar Molero Jurado et al. (2018) conducted a logistic regression model, with burnout dichotomised into two categories; those

affected by burnout syndrome, and those not affected. Del Carmen Pérez-Fuentes et al. (2019) found that interpersonal EI (β = -0.11; p<0.05), stress management (β = -0.31; p<0.001) and mood (β = -0.10; p<0.05), along with gender, employment situation, number of patients attended to, and perceived social support, significantly predicted burnout. They found that women with high stress management were at lowest risk of burnout. Conversely, del Mar Molero Jurado et al. (2018) found that stress management (β = -0.28; p<0.05) was the only EI factor, along with age, employment situation, and general self-efficacy which significantly predicted burnout.

The study by Mikolajczak et al. (2007) was the only one which explored whether any additional variables mediated or moderated the relationship between EI and burnout. They performed a mediation analysis and found that surface acting (modifying the outward display of emotions, in order to be consistent with expectations at work) partially mediated the protective effects of EI on burnout (0.33; $p \leq 0.001$).

Discussion

Summary of Findings

Existing literature suggests that burnout in nursing staff is high (Chopra et al., 2004) and has multiple negative consequences, including on the physical and psychological wellbeing of staff, as well as service-users' wellbeing and organisational structures (Albieri & Salvagioni, 2017; Cordes & Dougherty, 1993). Burnout has been linked to various lower-level personality factors, including EI in other participant groups. However, the precise nature of this relationship is unclear, and there is limited research exploring the links between EI and burnout in the nursing profession. As such, this study aimed to systematically review the existing quantitative literature exploring the relationship between EI and burnout in

nursing staff. This study is the first to systematically review, quality appraise, and synthesise the findings of the existing literature about this topic.

This review included 17 papers and the findings indicate significant negative correlations between global EI and global burnout in nursing staff. This was in line with previous research undertaken with other groups, including university students (Cazan & Năstasă, 2015), public service workers (Lee, 2017), teachers (Mérida-López & Extremera, 2017), doctors (Weng et al., 2011), and counselling students (Testa & Sangganjanavanich, 2016). This review also identified more specific associations; negative correlations between global EI and emotional exhaustion and depersonalisation, and positive correlations between global EI and personal accomplishment, which were also in line with findings with other groups (Cazan & Năstasă, 2015; Testa & Sangganjanavanich, 2016; Weng et al., 2011).

However, there were findings from the current review which did not support those from previous studies. In previous research, positive associations have been found between high levels of emotional attention (the attention individuals pay to their inner feelings and emotions) and burnout (Augusto Landa & López-Zafira, 2010; Mérida-López and Extremera, 2017), but this finding was not replicated in the current study. However, it is of note that the previous findings from Augusto Landa & López-Zafira (2010) along with those from Davis & Nichols (2016) suggests that it was the combination of high emotional awareness, along with a reduced ability to manage emotional distress that was problematic, as opposed to high emotional awareness alone. The data analysis methodology employed in the papers included in this current review did not permit this level of analysis, meaning that it was not possible to ascertain whether the findings were consistent with those from this review.

Strengths and Limitations

Although the CRD (2009) guidelines for conducting systematic literature reviews were used as guidance in this review, certain recommendations were not adhered to, because of time, cost and practicality confines of the thesis. For example, the guidelines recommend that systematic literature reviews are undertaken as a team. Although every stage of the review was discussed with the supervisor, much of the thesis was undertaken by the lead researcher alone, including screening papers for inclusion, data extraction and analysis. This may have increased the risk that some papers were missed, and challenged the reproducibility of the review. Furthermore, the literature review protocol was not pre-registered with PROSPERO, only peer-reviewed, published research was included and papers were excluded if they were not in English. This may have increased publication and language bias, overemphasised the relationship between variables, and reduced the comprehensiveness and generalisability of the findings. However, the guidance does acknowledge that the practical difficulties in locating information from unpublished studies and 'grey literature' may be unachievable given study confines (CPD, 2009).

Despite these limitations, there were a number of strengths in the methodological approach, with the aim of reducing bias and increasing transparency and reproducability. The search strategy was checked by a subject specialist librarian and further papers were searched for by hand, with the aim of ensuring a more comprehensive search strategy. Included papers were quality appraised and 25% of them were cross-checked by a peer. However, the methodological quality of the included papers was mixed. Although some papers achieved a rating of 'good', all studies had some methodological flaws, and as such, may have been influenced by bias.

This review makes a valuable contribution to the international literature base, as it has included papers from 12 different countries on three different continents. The nursing staff who participated in these studies are likely to work in different cultural and professional contexts. However, the incorporation of results from this range of countries may render the findings more applicable to various cultural contexts. It is of note that none of the studies included in the review were British, despite Heinen et al.'s (2013) finding that 42% of their UK sample experienced high levels of burnout, rating higher than their European colleagues. This may indicate the need for further research into the relationship between EI and burnout in a British sample.

In this study, similar dimensions of EI were grouped together. Caution should be used when making inferences about the relationships between specific individual dimensions of EI with burnout, given that numerous associations were only reported by one study each, some of which had methodological flaws. Furthermore, the studies were somewhat disparate with regards to the job role and qualification status of their participant populations, their methodological design and the measures that they used to assess EI and burnout measures. As such, limited inferences and comparisons can be made across trials and with previous research, regarding the specific mechanisms involved in the relationship between the two variables. It is also important to acknowledge the potential impact of including papers that measured different models of EI. It has been posited that trait and ability EI should be considered distinct entities. However, self-report measures of ability EI are often referred to as actually being measures of trait EI, as they rely on self-perceptions of ability, as opposed to tasks which directly measure ability, such as in the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT) (Qualter, Gardner, & Whiteley, 2007).

Clinical Implications and Future Research

As EI appears to be negatively correlated with burnout in nursing staff, it may be beneficial to introduce EI training into staff training curricula and professional training courses. The issue of whether and how EI can be developed is contentious, with some arguing that it develops slowly (Kaya, Şenyuva, & Bodur, 2017), and others reporting that change can be engendered through brief, one-day interventions (Kozlowski, Hutchinson, Hurley, & Browne, 2018). The reported effectiveness of interventions aimed at increasing EI is mixed, with some research indicating lasting impacts (Kozlowski et al., 2018), and others reporting that effects reduce over time, indicating the need for ongoing training opportunities (Biggart et al., 2016; Cherniss, Grimm, & Liautaud, 2010). It is also important to recognise that in order for EI training to be successful in reducing burnout, other systemic changes may also be required. A study which implemented an EI training intervention with social workers posited that it may have been difficult to challenge systemic norms which also may have contributed to burnout, without having the support of other untrained colleagues and management (Biggart et al., 2016). There is a dearth of well-designed studies of EI interventions with nursing staff in clinical settings (Kozlowski et al., 2018). As such, there is an indication for future research into EI training for nurses, as well as research into whether large-scale EI training provision within teams results in reduced nursing staff burnout in practice.

This also highlights the need for good quality, ongoing supervision and support for nursing staff, to develop and make use of new and pre-existing stress-management and coping skills that this review highlights are key factors in EI and lower levels of burnout. In a recent systematic review of the literature, Cutcliffe, Sloan and Bashaw (2018) found that although clinical supervision in nursing is now a reasonably common phenomenon internationally, there is limited literature regarding its evaluation and effectiveness. Their

findings highlighted that the majority of research in the area was of a qualitative nature, indicating overwhelmingly positive experiences of clinical supervision, with little quantitative evaluation of its effectiveness. Quantitative findings were mixed, with some studies finding no effect of clinical supervision on staff wellbeing or patient outcomes. However, in one small-scale quasi-experimental study included in the review (Wallbank & Hatton, 2011), clinical supervision was provided by a clinical psychologist for six 1-hour sessions over a 6-month period. They found statistically significant reductions in burnout (-36%) and stress (-59%). It may be of note that the clinical supervision provided to nurses in this study had a strong emphasis on the emotional wellbeing of supervisees. This is in line with other findings from the review, which suggested that clinical supervision was often poorly defined, with a lack of consensus around its definition, parameters and purpose. This lack of clarity may contribute to their findings that there was often a lack of supervisory training and an absence of frameworks for the delivery of supervision. These factors may influence the application of quality and consistent non-managerial clinical supervision and expectations of its worth (Cutcliffe et al., 2018). These findings may suggest that further research is warranted regarding the impact of clinical supervision which focuses on EI and wellbeing, on the reduction of burnout.

Another potentially useful area of future research regards the relationship between EI and compassion fatigue in nursing staff; a related but distinct phenomenon which comprises of burnout along with secondary/vicarious trauma (Stamm, 2010). The search strategy for this review identified that there is little to no research on this relationship. Given the far-reaching impact of compassion fatigue, including physical and psychological effects (Figley, 1995; Kelly, Runge, & Spencer, 2015), and negative patient and organisational outcomes (Berger, Polivka, Smoot, & Owens, 2015), undertaking further research into the possible links with EI may provide additional implications for training and professional practice.

Conclusions

This review has highlighted significant negative correlations between global EI and global burnout in nursing staff, with effect sizes ranging from weak to strong. More specifically, weak to moderate negative correlations were noted between global EI and emotional exhaustion and EI and depersonalisation, and moderate to strong positive correlations were noted between global EI and personal accomplishments. Individual EI dimensions were grouped into four overarching themes: intrapersonal EI; interpersonal EI; coping with upsetting situations, problems and change and; satisfaction with one's life. Mostly weak negative correlations were found between burnout and both intrapersonal and interpersonal EI, and weak to moderate correlations were found between burnout and both satisfaction with one's life and coping with upsetting situations, problems and change.

The review had a number of strengths, including being the first to systematically and transparently review the relationship between EI and burnout in nursing staff, whilst providing quality appraisal of the included studies. However, methodological flaws along with heterogeneous samples, study-designs and measures in the included studies may impact the generalisability of the findings. Nevertheless, the findings indicate numerous clinical and service-related implications, including the need for EI training and good quality clinical supervision, as well as indications for future research.

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Table 1

Study Characteristics

Author, year and country of publication	Design	Nursing Participants	Measure of EI/EC	Measures of burnout	Significant correlations between EI and burnout (total scores if not specified) r=	Regression/path/mediation analysis and significant regression findings of EI on burnout
Afsar et al. (2017) Pakistan	Cross-sectional	Nurses in public hospitals (n= 379). Gender not reported. Average age= 29.6 years.	SSREIT[1]	MBI[2]	-0.38**[3]	Standardised regression coefficient: (β= -0.21**).
Bidlan & Sihag (2014)[4] India	Cross-sectional	Nursing staff from private hospitals in Delhi (n=200). 100 males and 100 females. Age not reported.	MMEI[5]	MBI Human Service Survey	Emotional Exhaustion with Managing emotions: - .17* Depersonalisation with Self-awareness: - .16* Managing emotions: - .17** Motivating oneself: - .20** Personal accomplishment with Self-awareness: .15* Managing emotions: .29** Motivating oneself: .31** Handling relationships .22**	No regression analysis of effect of EI on burnout reported

[1] Schutte's Self-report Emotional Intelligence Test, [2] Maslach Burnout Inventory, [3] p<0.05*, p<0.01**, p<0.001***, [4] Data provided by authors via email, [5]Multidimensional Measure of Emotional Intelligence

Author, year and country of publication	Design	Nursing Participants	Measures of EI/EC	Measures of burnout	Significant correlations between EI and burnout (total scores if not specified) r=	Regression/path/mediation analysis and significant regression findings of EI on burnout
Chao et al. (2016) Taiwan	Cross-sectional	Nurses from a public hospital (n=98). All female. 73.4% aged 20-40.	Chinese version of Goleman's EII[6]	Chinese version of MBI	No significant correlations reported	No regression analysis of effect of EI on burnout reported
de Looff et al. (2019) Netherlands	Longitudinal cohort study	Mental health nursing staff from a forensic hospital for LD & challenging behaviour (n=110). 59% female. Aged 21-59, mean 35.5.	The Dutch EQI[7]	Dutch MBI	-0.49**	In a multilevel regression model for predictor of burnout: EI (-0.05**), along with time, job stress, aggression, neuroticism & altruism accounted for 54% of the variance
del Carmen Pérez-Fuentes et al. (2019) Spain	Cross-sectional	Nurses from health centres (n=1307). Aged 22-60, mean 32.03. 84.6% female.	EQ i 20M[8]	CBB[9]	Burnout with: Intrapersonal: -0.26*** Interpersonal: -0.26 *** Stress management -0.36*** Adaptability: -0.22*** Mood: -0.34***	Logistic regression model: Interpersonal EI (β = -0.11*), Stress management: (β = -0.31***), Mood: (β = -0.10*) along with sex, employment situation, number of patients & perceived social support were predictors of burnout.

[6] Emotional Intelligence Inventory, [7] Emotional Quotient Inventory, [8] Brief Emotional Intelligence Inventory for Adults, [9] Brief Burnout Questionnaire

Author, year and country of publication	Design	Nursing Participants	Measures of EI/EC	Measures of burnout	Significant correlations between EI and burnout (total scores if not specified) r=	Regression/path/mediation analysis and significant regression findings of EI on burnout
del Mar Molero Jurado et al. (2018) Spain	Cross-sectional	Certified Nursing Aides from health centres (n=278). 92.1% female, aged 21-60, mean= 40.88	EQ i 20M	CBB	Burnout with: Intrapersonal: −0.26*** Interpersonal: −0.29*** Adaptability: −0.34*** Mood: −0.41*** Stress management−0.32***	Logistic regression model: Stress management: (β = -0.28*) along with age, employment situation, general self-efficacy were predictors of burnout
Delpasand et al. (2011) Iran	Cross-sectional	Nurses from critical care units (n=150). 62% female. Mean age 35.01	CSEI[10]	MBI	Emotional exhaustion with: Self-consciousness: -0.22* Self-monitoring: -0.19* Self motivation: -0.19 * Global EI: -0.23* Personal accomplishment with: Self-consciousness:0.45≤*** Self-monitoring: 0.21* Empathy: 0.23* Social skills: 0.24* Global EI: 0.44***	No regression analysis reported

[10] Cyberia-Shrink's emotional intelligence questionnaire

Author, year and country of publication	Design	Nursing Participants	Measures of EI/EC	Measures of burnout	Significant correlations between EI and burnout (total scores if not specified) r=	Regression/path/mediation analysis and significant regression findings of EI on burnout
Garrosa et al. (2011) Spain	Cross-sectional	Nurses from general hospitals (n=508), 89.6% female.	ECS[11]	NBS[12]	Emotional competence with: Emotional exhaustion: -0.21 ** Depersonalisation: -0.32** Lack of personal accomplishment: -0.32**	Hierarchical multiple regression: Emotional competence (β = -0.18***) along with role stress and hardy personality, accounted for 33% of the variance of depersonalisation (ΔR^2=0.16***). Emotional competence (β = -0.14**), along with role stress, optimism and hardy personality, accounted for 37% of the variance of lack of personal accomplishment (ΔR^2=0.18***).

[11] Emotional Competence Scale, [12] Nursing Burnout Scale

Author, year and country of publication	Design	Nursing Participants	Measures of EI/EC	Measures of burnout	Significant correlations between EI and burnout (total scores if not specified) r=	Regression/path/mediation analysis and significant regression findings of EI on burnout
Gerits et al. (2004) Netherlands	Cross-sectional	Nurses working in residential facilities for people with mental retardation & behaviour problem (n=380). 60% female	The Dutch EQI	Dutch version of the MBI	Female Emotional Exhaustion Total: -0.33** Intrapersonal: -0.28** Adaptability: -0.36** Stress: -0.22** Mood: -0.18** Female Depersonalisation Total: -0.32** Intrapersonal: -0.21** Interpersonal: -0.19** Adaptability: -0.31** Stress: -0.31** Mood: -0.22** Male Accomplishment Total: 0.25** Interpersonal: 0.22** Mood: 0.23** Female Accomplishment Total: 0.38** Intrapersonal: 0.29** Interpersonal: 0.23** Adaptability: 0.35** Stress: 0.27** Mood: 0.28**	No regression analysis reported

Author, year and country of publication	Design	Nursing Participants	Measures of EI/EC	Measures of burnout	Significant correlations between EI and burnout (total scores if not specified) r=	Regression/path/mediation analysis and significant regression findings of EI on burnout
Görgens-Ekermans & Brand (2012) South Africa	Cross-sectional	Nurses from a private healthcare agency (n=122), including registered nurses (41.8%), enrolled nurses (13.9%) & auxiliary nurses (40.2%). 89.3% female, mean age 38.5	SUEIT[13]	MBI Human Service Survey	Emotional Exhaustion with: Emotional Management: -0.31** Emotional Control: -0.28** Depersonalisation with: Emotional Management: -0.32** Emotional Control: -0.24** EI total: -0.22* Personal Accomplishment with: Emotional Recognition and Expression: 0.27** Understanding Others' Emotions: 0.43** Emotional Management: 0.32** Emotional Control: 0.30** EI total: 0.41**	No regression analysis of effect of EI on burnout reported
Hong & Lee (2016) South Korea	Cross-sectional	General nurses working in a university hospital (n=211). Mean age 32.9.	WLEIS[14]	Korean version of BMS[15]	-0.26***	Path analysis: EI (β= -0.29***), along with emotional labour and job stress, directly affected burnout, with a total explanatory power of 37.2%.

[13] Swinburne University Emotional Intelligence Test, [14] Wong & Law Emotional Intelligence Scale, [15] The Burnout Measure Short Version

Author, year and country of publication	Design	Nursing Participants	Measures of EI/EC	Measures of burnout	Significant correlations between EI and burnout (total scores if not specified) r=	Regression/path/mediation analysis and significant regression findings of EI on burnout
Kaur et al. (2013) Malaysia	Cross-sectional	Nurses from public hospitals (n=448). 438 female. Average age 34.5	SSREIT	MBI Human Service Survey	-0.18***; p=0.000)	No regression analysis of effect of EI on burnout reported
Koronaiou & Antoniou (2018) Greece	Cross-sectional	Nurses from hospitals in Athens (n=271). 90.4% women. Age range ≥20-50+, with 56.1% in the 36-50 age group.	TEIQue-SF[16]	MBI (Greek adaptation)	Emotional exhaustion with: Wellbeing: -0.28** Self-control: -0.23** Emotionality: -0.24** Sociability: -0.35** EI total: -0.38** Depersonalisation with: Wellbeing: -0.21** Self-control: -0.25** Emotionality: -0.27** Sociability: -0.23** EI total: -0.33** Personal accomplishment with: Wellbeing: 0.35** Self-control: 0.29** Emotionality: 0.31** Sociability: 0.29** EI total: 0.42**	No regression analysis of effect of EI on burnout reported

Author, year and country of publication	Design	Nursing Participants	Measures of EI/EC	Measures of burnout	Significant correlations between EI and burnout (total scores if not specified) r=	Regression/path/mediation analysis and significant regression findings of EI on burnout
Mikolajczak et al. (2007) Belgium	Longitudinal cohort study	Nurses (n=124). 85% female. Mean age 39.4	TEIQue-SF	MBI	Trait EI with: Emotional exhaustion (T1) -0.49*** Depersonalisation (T1) -0.30*** Diminished accomplishment (T1) -0.45*** Global Burnout (T1) -0.54*** Diminished accomplishment (T2) -0.64** Global Burnout (T2) -0.58**	Hierarchical regression testing incremental validity of trait EI to predict burnout (T2) over and above the five factor model of personality Trait EI: β= -0.42** Mediation analysis to test whether Trait EI on burnout is explained by emotional labour Emotional effort (surface acting) partially mediated trait EI on burnout 0.33; ≤***
Nespereira-Campuzano & Vázquez-Campo (2017) Spain	Cross-sectional	Graduate nurses (n=36) and trained care assistants (n=24). All female, mean age of 45.3.	Spanish adaptation of the TMMS[17]	CBB	Clarity in discrimination of feelings with: Professional accomplishment 0.28* Organisation -0.32* Mood repair with: Organisation -0.45**	No regression analysis of effect of EI on burnout reported

[16] Trait Emotional Intelligence Questionnaire- Short Form

Author, year and country of publication	Design	Nursing Participants	Measures of EI/EC	Measures of burnout	Significant correlations between EI and burnout (total scores if not specified) r=	Regression/path/mediation analysis and significant regression findings of EI on burnout
Samaei et al. (2017) Iran	Cross-sectional	Nurses from hospitals (n=300). 85.66% women. Aged 23-47, mean 31.35.	CSEI	MBI Human Service Survey	No correlations conducted	Standardised regression coefficient: β= -0.51**
Szczygiel & Mikolajczak (2018) Poland	Longitudinal cohort study	Nurses from hospitals (n=188), all female. Aged 23-61, average 42.	TEIQue-SF	OLBI[17]	-0.36***	Moderated hierarchical regression analysis EI (-0.18*) along with sadness related emotions and trait negative affectivity, accounted for 21% of the variance of burnout (ΔR^2 = 0.02*

[17] Oldenburg Burnout Inventory

Table 2

Descriptions of Included EI Measures

EI Measure	Author	Model	Description	Dimensions	Number of Studies Using Measure
Self-Report Emotional Intelligence Test (SSREIT)	Schutte et al. (1998)	Ability	33 self-report items, rated from 1 (strongly disagree) to 5 (strongly agree)	Schutte et al. recommended using one total score.	2
Multidimensional Measure of Emotional Intelligence (MMEI)	Darolia (2003)	Ability	80 multiple choice items, rated on a 5-point scale.	Self-Awareness, Managing Emotions, Motivating Oneself, Empathy & Handling Relationships	1
Goleman's Emotional Intelligence inventory (EII)	Goleman (1995)	Mixed model	50 self-report items rated from 1 (never) to 5 (always)	Self-Awareness, Emotional Management, Self-Motivation, Empathy, and Interpersonal Relationships.	1
Emotional Quotient Inventory (EQI)	Bar-On (2006)	Trait	133 self-report items, rated from 5 (very often true) to 1 (very seldom true)	Stress Management Skills, Interpersonal Skills, Amount of Adaptability, Intrapersonal Ability, General Mood and one general EQ score.	2
Brief Emotional Intelligence Inventory for Adults (EQ i 20M) [Adapted from Bar-On's EQI]	Pérez-Fuentes et al. (2014)	Trait	20 self-report items, rated on a 4-point Likert scale.	Stress Management Skills, Interpersonal Skills, Amount of Adaptability, Intrapersonal Ability and General Mood.	2

EI Measure	Author	Model	Description	Dimensions	Number of Studies Using Measure
Cyberia-Shrink's emotional intelligence questionnaire (CSEI)	Unknown	Mixed model	33 self-report items rated from 5 (completely agree) to 1 (completely disagree).	Consciousness, Self-Monitoring, Empathy, Social Skills, Self-Motivation, and one global EI score.	2
Swinburne University Emotional Intelligence Test (SUEIT)	Palmer & Stough (2001)	Trait	64 self-report items measuring EI behaviour in the workplace, rated on a 5-point Likert scale from 'almost never' to 'almost always'	Emotional Recognition & Expression, Understanding Others' Emotions, Emotions Direct Cognition, Emotional Management, Emotional Control, and a total EI score	1
Wong & Law Emotional Intelligence Scale (WLEIS)	Wong & Law (2002)	Trait	16 self-report items	Self Emotion Appraisal, Other's Emotion Appraisal, Regulation of Emotion, and Use of Emotion	1
Trait Emotional Intelligence Questionnaire- Short Form (TEIQUE-SF)	Cooper & Petrides (2010)	Trait	30 self-report items rated from 1 (completely disagree) to 7 (completely agree.	Wellbeing, Self_Control, Emotionality, Sociability and a global EI score	3
Trait Meta-Mood Scale (TMMS)	Salovey et al. (1995)	Trait	24 self-report items rated from 1 (do not agree) to 5 (fully agree)	Attention to Feeling, Clarity in Discrimination of Feeling, and Mood Repair	1

Table 3

Description of Included Burnout Measures

Burnout Measure	Author	Description	Dimensions	Number of Studies Using Measure
Maslach Burnout Inventory (MBI)	Maslach et al. (1996)	22 self-report items, rated from 0 (never) to 6 (every day) 20 items for Chinese version rated from 1 (never) to 5 (always) 20 items for Dutch version (Utrecht Burnout Scale), rated from 0 (never) to 6 (every day) 22 items for Greek version, rated from 0 (never) to 6 (every day)	Emotional Exhaustion (EE), Depersonalisation (DP), and Personal Accomplishment (PA)	11
Brief Burnout Questionnaire (CBB)	Moreno et al. (1997)	21 self-report items, rated on a 5-point Likert scale	3 variables: Burnout Syndrome (comprising of EE, DP and PA), Causes of Burnout (comprising of Tedium, Job Characteristics and Organisation) and Consequences of Burnout. Scale also provides a global burnout score	2
Nursing Burnout Scale (NBS)	Garrosa et al. (2008)	24 self-report items	EE, DP, Lack of PA, and global index of burnout	1
The Burnout Measure Short Version (BMS)	Maslach-Pines, A. (2005)	10 self-report items, rated on a 7-point Likert scale.	Physical Burnout, Emotional Burnout, Mental Burnout, and global score	1
Oldenburg Burnout Inventory (OLBI)	Demerouti et al. (201)	16 self-report items rated from 1 (strongly agree) to 4 (strongly disagree).	Exhaustion and Disengagement	1

Table 4

Quality Appraisal

Study	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Rating
Afsar et al.	Yes	No	Yes	Yes	No	No	No	Yes	Yes	N/A	Yes	NR	N/A	No	Fair
Bidlan & Sihag	No	No	Yes	Yes	No	No	No	Yes	Yes	N/A	Yes	NR	N/A	Yes	Fair
Chao et al.	Yes	No	Yes	Yes	Yes	No	No	Yes	Yes	N/A	Yes	NR	N/A	Yes	Good
de Looff et al.	Yes	No	NR	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	NR	No	Yes	Good
del Carmen Pérez-Fuentes et al.	Yes	No	NR	Yes	No	No	No	Yes	No	N/A	Yes	NR	N/A	Yes	Poor
del Mar Molero Jurado et al.	Yes	No	Yes	Yes	No	No	No	Yes	No	No	Yes	NR	N/A	Yes	Fair
Delpasand et al.	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	N/A	Yes	NR	N/A	No	Fair
Garrosa et al.	Yes	No	NR	Yes	No	No	No	Yes	Yes	N/A	Yes	NR	N/A	Yes	Fair
Gerits et al.	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	N/A	Yes	NR	N/A	No	Fair
Görgens-Ekermans & Brand	Yes	No	Yes	Yes	No	No	No	Yes	Yes	N/A	Yes	NR	N/A	Yes	Fair
Hong & Lee	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	N/A	Yes	NR	N/A	No	Good

Study	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Rating
Kaur et al.	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	No	Yes	NR	N/A	No	Fair
Koronaiou & Antoniou	Yes	No	Yes	Yes	No	No	No	Yes	No	N/A	Yes	NR	N/A	No	Poor
Mikolajczak et al.	Yes	No	NR	Yes	No	No	No	Yes	Yes	No	Yes	NR	No	Yes	Fair
Nespereira-Campuzano & Vázquez-Campo	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	No	Yes	NR	N/A	No	Fair
Samaei et al.	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	Yes	NR	N/A	No	Good
Szczygiel & Mikolajczak	Yes	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes	Yes	NR	No	Yes	Good

Table 5
Box-score summary of correlations between EI and burnout

Correlation	**Number of Studies**	
Global EI and		
Global Burnout	7	- - - - - - 0
Emotional Exhaustion	7	- - - - - -/0[1] 0
Depersonalisation	7	- - - - - -/0[1] 0
Personal Accomplishment	6	+ + + + + +
Intrapersonal EI and		
Global Burnout	2	- -
Emotional Exhaustion	6	- - -/0[1] 000
Depersonalisation	6	- - -/0[1] -/0[2] 00
Personal Accomplishment	7	+ + + + + +/0[3] 0
Interpersonal EI and		
Global Burnout	2	- -
Emotional Exhaustion	5	- 0000
Depersonalisation	5	- -/0[1] 000
Personal Accomplishment	5	+ + + + +/0[4]
Coping with upsetting situations, problems and change and		
Global EI	2	- -
Emotional Exhaustion	5	- - -/0[1] -/0[5] 0
Depersonalisation	6	- - - -/0[1] 00
Personal Accomplishment	5	+ + +/0[3]+/0[6] 0
Life satisfaction and		
Global burnout	2	- -
Emotional Exhaustion	2	- -/0[1]
Depersonalisation	2	- -/0[1]
Personal Accomplishment	2	+ +

[1] non-significant for men, negative correlation for women (Gerits et al., 2014), [2] study reported 2 non-significant and 1 significant correlation in this group (Delpasand)

[3] non-significant for men, positive correlation for women (Gerits et al.), [4] study reported 1 non-significant and 1 positive correlation (Bidlan & Sihag)

[5] study reported 1 non-significant and 1 negative correlation (Gorgens Ekermans), [6] study reported 1 non-significant and 1 positive correlation (Gorgens Ekermans)

Table 6
Groupings of Similar EI dimensions

Intrapersonal EI	Interpersonal EI	Coping with upsetting situations, problems and change	Satisfaction with one's life
Intrapersonal Skills (EQI)	Interpersonal Skills (EQI)	Stress Management Skills (EQI)	General Mood (EQI)
Self-Awareness (EII & MMEI)	Empathy (EII)	Amount of Adaptability (EQI)	Wellbeing (TEIQue-SF)
Self-Motivation (EII & CSEI)	Interpersonal Relationships (EII)	Emotional Regulation (EII)	
Consciousness (CSEI)	Empathy (CSEI & MMEI)	Self-Regulation (EII)	
Self-Monitoring (CSEI)	Social Skills (CSEI)	Emotional Management (SUEIT)	
Verbal Expression of Emotions (ECS)	Discerning Others' Emotions (ECS)	Emotional Control (SUEIT)	
Emotional Recognition & Expression (SUEIT)	Empathy (ECS)	Regulation of Emotion (WLEIS)	
Self Emotion Appraisal (WLEIS)	Understanding Others' Emotions (SUEIT)	Self-Control (TEIQue-SF)	
Emotionality (self) (TEIQue-SF)	Others' Emotion Appraisal (WLEIS)	Mood Repair (TMMS)	
Attention to feeling (TMMS)	Sociability (TEIQue-SF)	Emotions direct cognition (SUEIT)	
Clarity in discrimination of feeling (TMMS)	Emotionality (TEIQue-SF)	Managing Emotions (MMEI)	
Motivating Oneself (MMEI)	Handling Relationships (MMEI)		

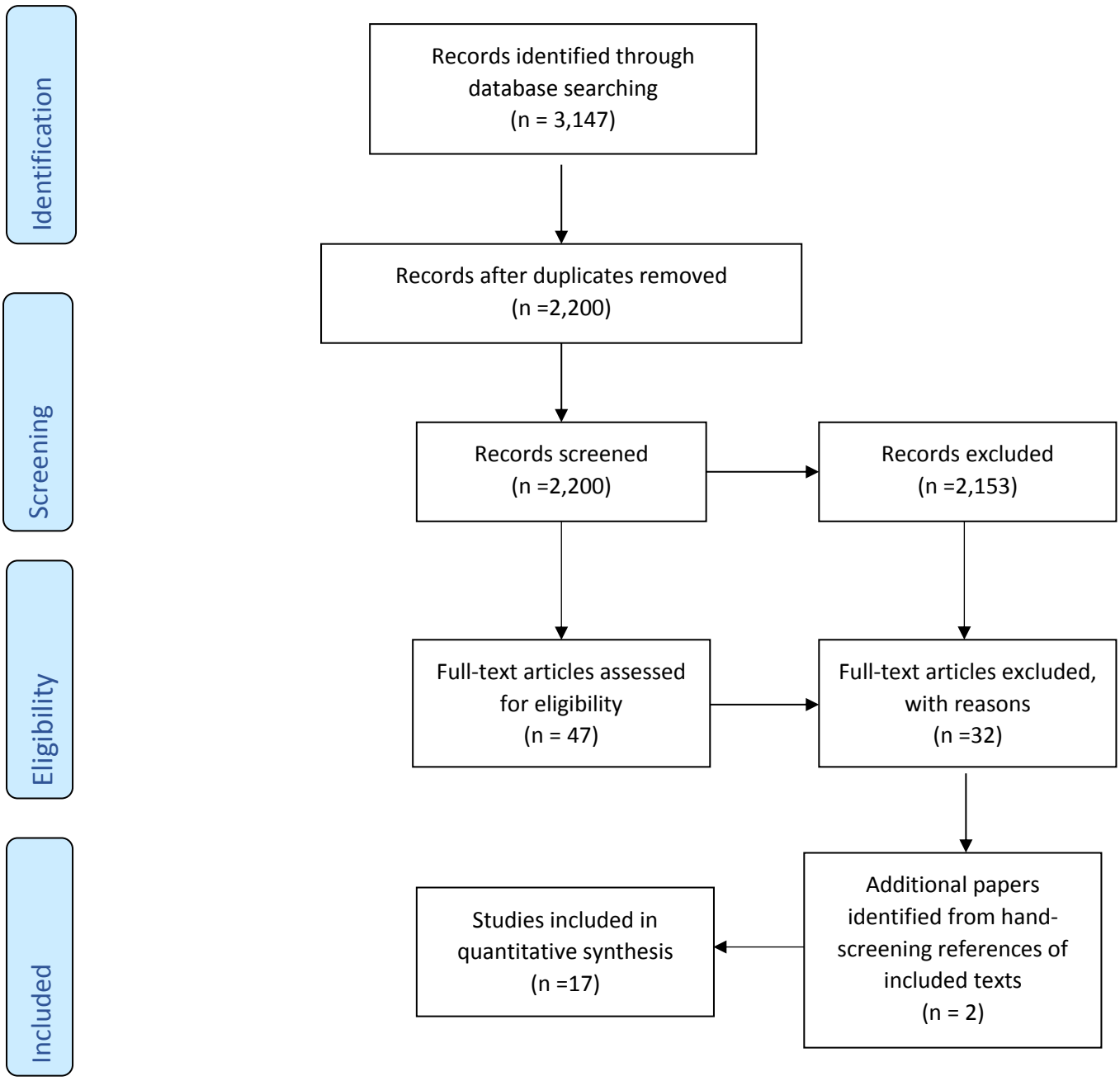

Figure 1: Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA Flow Diagram (Moher, Liberati, Tetzlaff, & Altman, 2010)

Appendix A

Search Strategies

Academic Search Ultimate

S1 DE “EMOTIONAL intelligence”

S2 DE “EMOTIONAL maturity”

S3 DE “EMOTIONAL competence”

S4 TI “emotional* intelligen*” OR AB “emotional* intelligen*”

S5 TI EI OR AB EI

S6 TI “emotional* competen*” OR AB “emotional* competen*”

S7 TI “emotional* matur*” OR AB “emotional* matur*”

S8 S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR S7

S9 DE “JOB stress”

S10 DE “BURNOUT (Psychology)”

S11 DE “SECONDARY traumatic stress”

S12 DE “FATIGUE”

S13 DE “STRESS (Psychology)”

S14 TI burnout OR AB burnout

S15 TI burned-out OR AB burned-out

S16 TI “burned out” OR AB “burned out”

S17 TI “burn out” OR AB “burn out”

S18 TI burn-out OR AB burn-out

S19 TI fatigue OR AB fatigue

S20 TI “vicarious* trauma*” OR AB “vicarious* trauma*”

S21 TI “secondary trauma*” OR AB “secondary trauma*”

S22 TI stress* or AB stress*

S23 S9 OR S10 OR S11 OR S12 OR S13 OR S14 OR S15 OR S16 OR S17 OR S18 OR S19 OR S20 OR S21 OR S22

S24 S8 AND S23

CINAHL Complete

S1 (MH “Emotional Intelligence”)

S2 (MH “Emotional Maturity”)

S3 TI “emotional* intelligen*” OR AB “emotional* intelligen*”

S4 TI EI OR AB EI

S5 TI “emotional* competen*” OR AB “emotional* competen*”

S6 TI “emotional* matur*” OR AB “emotional* matur*”

S7 S1 OR S2 OR S3 OR S4 OR S5 OR S6

S8 (MH “Stress, Occupational”)

S9 (MH Stress”)

S10 (MH “Compassion Fatigue”)

S11 (MH “Burnout, Professional”)

S12 (MH “Fatigue”)

S13 TI burnout OR AB burnout

S14 TI burned-out OR AB burned-out

S15 TI “burned out” OR AB “burned out”

S16 TI “burn out” OR AB “burn out”

S17 TI burn-out OR AB burn-out

S18 TI fatigue OR AB fatigue

S19 TI “vicarious* trauma*” OR AB “vicarious* trauma*”

S20 TI “secondary trauma*” OR AB “secondary trauma*”

S21 TI stress* or AB stress*

S22 S8 OR S9 OR S10 OR S11 OR S12 OR S13 OR S14 OR S15 OR S16 OR S17 OR S18 OR S19 OR S20 OR S21

S23 S7 AND S22

MEDLINE Complete

S1 (MH “Emotional Intelligence”)

S2 TI “emotional* intelligen*” OR AB “emotional* intelligen*”

S3 TI EI OR AB EI

S4 TI “emotional* competen*” OR AB “emotional* competen*”

S5 TI “emotional* matur*” OR AB “emotional* matur*”

S6 S1 OR S2 OR S3 OR S4 OR S5

S7 (MH “Occupational Stress”)

S8 (MH “Compassion Fatigue”)

S9 (MH “Fatigue”)

S10 (MH “Stress, Psychological”)

S11 (MH “Burnout, Professional”)

S12 TI burnout OR AB burnout

S13 TI burned-out OR AB burned-out

S14 TI “burned out” OR AB “burned out”

S15 TI “burn out” OR AB “burn out”

S16 TI burn-out OR AB burn-out

S17 TI fatigue OR AB fatigue

S18 TI “vicarious* trauma*” OR AB “vicarious* trauma*”

S19 TI “secondary trauma*” OR AB “secondary trauma*”

S20 TI stress* or AB stress*

S21 S7 OR S8 OR S9 OR S10 OR S11 OR S12 OR S13 OR S14 OR S15 OR S16 OR S17 OR S18 OR S19 OR S20

S22 S6 AND S21

psycINFO

S1 DE “Emotional Intelligence”

S2 DE “Emotional Maturity”

S3 TI “emotional* intelligen*” OR AB “emotional* intelligen*”

S4 TI EI OR AB EI

S5 TI “emotional* competen*” OR AB “emotional* competen*”

S6 TI “emotional* matur*” OR AB “emotional* matur*”

S7 S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR S6

S8 DE “Stress”

S9 DE “Occupational Stress”

S10 DE “Fatigue”

S11 DE “Compassion Fatigue”

S12 TI burnout OR AB burnout

S13 TI burned-out OR AB burned-out

S14 TI “burned out” OR AB “burned out”

S15 TI “burn out” OR AB “burn out”

S16 TI burn-out OR AB burn-out

S17 TI fatigue OR AB fatigue

S18 TI “vicarious* trauma*” OR AB “vicarious* trauma*”

S19 TI “secondary trauma*” OR AB “secondary trauma*”

S20 TI stress* or AB stress*

S21 S8 OR S9 OR S10 OR S11 OR S12 OR S13 OR S14 OR S15 OR S16 OR S17 OR S18 OR S19 OR S20

S22 S7 AND S21

Appendix B

Quality Assessment Tool for Observational Cohort and Cross-Sectional Studies

1. Was the research question or objective in this paper clearly stated?

2. Was the study population clearly specified and defined?

3. Was the participation rate of eligible persons at least 50%?

4. Were all the subjects selected or recruited from the same or similar populations (including the same time period)? Were inclusion and exclusion criteria for being in the study prespecified and applied uniformly to all participants?

5. Was a sample size justification, power description, or variance and effect estimates provided?

6. For the analyses in this paper, were the exposure(s) of interest measured prior to the outcome(s) being measured?

7. Was the timeframe sufficient so that one could reasonably expect to see an association between exposure and outcome if it existed?

8. For exposures that can vary in amount or level, did the study examine different levels of the exposure as related to the outcome (e.g., categories of exposure, or exposure measured as continuous variable)?

9. Were the exposure measures (independent variables) clearly defined, valid, reliable, and implemented consistently across all study participants?

10. Was the exposure(s) assessed more than once over time?

11. Were the outcome measures (dependent variables) clearly defined, valid, reliable, and implemented consistently across all study participants?

12. Were the outcome assessors blinded to the exposure status of participants?

13. Was loss to follow-up after baseline 20% or less?

14. Were key potential confounding variables measured and adjusted statistically for their impact on the relationship between exposure(s) and outcome(s)?

Yes, No, cannot determine; not applicable; not reported

Guidance for Assessing the Quality of Observational Cohort and Cross-Sectional Studies

The guidance document below is organized by question number from the tool for quality assessment of observational cohort and cross-sectional studies.

Question 1. Research question

Did the authors describe their goal in conducting this research? Is it easy to understand what they were looking to find? This issue is important for any scientific paper of any type. Higher quality scientific research explicitly defines a research question.

Questions 2 and 3. Study population

Did the authors describe the group of people from which the study participants were selected or recruited, using demographics, location, and time period? If you were to conduct this study again, would you know who to recruit, from where, and from what time period? Is the cohort population free of the outcomes of interest at the time they were recruited?

An example would be men over 40 years old with type 2 diabetes who began seeking medical care at Phoenix Good Samaritan Hospital between January 1, 1990 and December 31, 1994. In this example, the population is clearly described as: (1) who (men over 40 years old with type 2 diabetes); (2) where (Phoenix Good Samaritan Hospital); and (3) when (between January 1, 1990 and December 31, 1994). Another example is women ages 34 to 59 years of age in 1980 who were in the nursing profession and had no known coronary disease, stroke, cancer, hypercholesterolemia, or diabetes, and were recruited from the 11 most populous States, with contact information obtained from State nursing boards.

In cohort studies, it is crucial that the population at baseline is free of the outcome of interest. For example, the nurses' population above would be an appropriate group in which to study incident coronary disease. This information is usually found either in descriptions of population recruitment, definitions of variables, or inclusion/exclusion criteria.

You may need to look at prior papers on methods in order to make the assessment for this question. Those papers are usually in the reference list.

If fewer than 50% of eligible persons participated in the study, then there is concern that the study population does not adequately represent the target population. This increases the risk of bias.

Question 4. Groups recruited from the same population and uniform eligibility criteria

Were the inclusion and exclusion criteria developed prior to recruitment or selection of the study population? Were the same underlying criteria used for all of the subjects involved? This issue is related to the description of the study population, above, and you may find the information for both of these questions in the same section of the paper.

Most cohort studies begin with the selection of the cohort; participants in this cohort are then measured or evaluated to determine their exposure status. However, some cohort studies may recruit or select exposed participants in a different time or place than unexposed participants, especially retrospective cohort studies– which is when data are obtained from the past (retrospectively), but the analysis examines exposures prior to outcomes. For example, one research question could be whether diabetic men with clinical depression are at higher risk for cardiovascular disease than those without clinical depression. So, diabetic men with depression might be selected from a mental health clinic, while diabetic men without depression might be selected from an internal medicine or endocrinology clinic. This study recruits groups from different clinic populations, so this example would get a "no."

However, the women nurses described in the question above were selected based on the same inclusion/exclusion criteria, so that example would get a "yes."

Question 5. Sample size justification

Did the authors present their reasons for selecting or recruiting the number of people included or analyzed? Do they note or discuss the statistical power of the study? This question is about whether or not the study had enough participants to detect an association if one truly existed.

A paragraph in the methods section of the article may explain the sample size needed to detect a hypothesized difference in outcomes. You may also find a discussion of power in the discussion section (such as the study had 85 percent power to detect a 20 percent increase in the rate of an outcome of interest, with a 2-sided alpha of 0.05). Sometimes estimates of variance and/or estimates of effect size are given, instead of sample size calculations. In any of these cases, the answer would be "yes."

However, observational cohort studies often do not report anything about power or sample sizes because the analyses are exploratory in nature. In this case, the answer would be "no." This is not a "fatal flaw." It just may indicate that attention was not paid to whether the study was sufficiently sized to answer a prespecified question–i.e., it may have been an exploratory, hypothesis-generating study.

Question 6. Exposure assessed prior to outcome measurement

This question is important because, in order to determine whether an exposure causes an outcome, the exposure must come before the outcome.

For some prospective cohort studies, the investigator enrolls the cohort and then determines the exposure status of various members of the cohort (large epidemiological studies like Framingham used this approach). However, for other cohort studies, the cohort is selected based on its exposure status, as in the example above of depressed diabetic men (the exposure being depression). Other examples include a cohort identified by its exposure to fluoridated drinking water and then compared to a cohort living in an area without fluoridated water, or a cohort of military personnel exposed to combat in the Gulf War compared to a cohort of military personnel not deployed in a combat zone.

With either of these types of cohort studies, the cohort is followed forward in time (i.e., prospectively) to assess the outcomes that occurred in the exposed members compared to nonexposed members of the cohort. Therefore, you begin the study in the present by looking at groups that were exposed (or not) to some biological or behavioral factor, intervention, etc., and then you follow them forward in time to examine outcomes. If a cohort study is conducted properly, the answer to this question should be "yes," since the exposure status of members of the cohort was determined at the beginning of the study before the outcomes occurred.

For retrospective cohort studies, the same principal applies. The difference is that, rather than identifying a cohort in the present and following them forward in time, the investigators go back in time (i.e., retrospectively) and select a cohort based on their exposure status in the past and then follow them forward to assess the outcomes that occurred in the exposed and nonexposed cohort members. Because in retrospective cohort studies the exposure and

outcomes may have already occurred (it depends on how long they follow the cohort), it is important to make sure that the exposure preceded the outcome.

Sometimes cross-sectional studies are conducted (or cross-sectional analyses of cohort-study data), where the exposures and outcomes are measured during the same timeframe. As a result, cross-sectional analyses provide weaker evidence than regular cohort studies regarding a potential causal relationship between exposures and outcomes. For cross-sectional analyses, the answer to Question 6 should be "no."

Question 7. Sufficient timeframe to see an effect

Did the study allow enough time for a sufficient number of outcomes to occur or be observed, or enough time for an exposure to have a biological effect on an outcome? In the examples given above, if clinical depression has a biological effect on increasing risk for CVD, such an effect may take years. In the other example, if higher dietary sodium increases BP, a short timeframe may be sufficient to assess its association with BP, but a longer timeframe would be needed to examine its association with heart attacks.

The issue of timeframe is important to enable meaningful analysis of the relationships between exposures and outcomes to be conducted. This often requires at least several years, especially when looking at health outcomes, but it depends on the research question and outcomes being examined.

Cross-sectional analyses allow no time to see an effect, since the exposures and outcomes are assessed at the same time, so those would get a "no" response.

Question 8. Different levels of the exposure of interest

If the exposure can be defined as a range (examples: drug dosage, amount of physical activity, amount of sodium consumed), were multiple categories of that exposure assessed? (for example, for drugs: not on the medication, on a low dose, medium dose, high dose; for dietary sodium, higher than average U.S. consumption, lower than recommended consumption, between the two). Sometimes discrete categories of exposure are not used, but instead exposures are measured as continuous variables (for example, mg/day of dietary sodium or BP values).

In any case, studying different levels of exposure (where possible) enables investigators to assess trends or dose-response relationships between exposures and outcomes–e.g., the higher the exposure, the greater the rate of the health outcome. The presence of trends or dose-response relationships lends credibility to the hypothesis of causality between exposure and outcome.

For some exposures, however, this question may not be applicable (e.g., the exposure may be a dichotomous variable like living in a rural setting versus an urban setting, or vaccinated/not vaccinated with a one-time vaccine). If there are only two possible exposures (yes/no), then this question should be given an "NA," and it should not count negatively towards the quality rating.

Question 9. Exposure measures and assessment

Were the exposure measures defined in detail? Were the tools or methods used to measure exposure accurate and reliable–for example, have they been validated or are they objective?

This issue is important as it influences confidence in the reported exposures. When exposures are measured with less accuracy or validity, it is harder to see an association between exposure and outcome even if one exists. Also as important is whether the exposures were assessed in the same manner within groups and between groups; if not, bias may result.

For example, retrospective self-report of dietary salt intake is not as valid and reliable as prospectively using a standardized dietary log plus testing participants' urine for sodium content. Another example is measurement of BP, where there may be quite a difference between usual care, where clinicians measure BP however it is done in their practice setting (which can vary considerably), and use of trained BP assessors using standardized equipment (e.g., the same BP device which has been tested and calibrated) and a standardized protocol (e.g., patient is seated for 5 minutes with feet flat on the floor, BP is taken twice in each arm, and all four measurements are averaged). In each of these cases, the former would get a "no" and the latter a "yes."

Here is a final example that illustrates the point about why it is important to assess exposures consistently across all groups: If people with higher BP (exposed cohort) are seen by their providers more frequently than those without elevated BP (nonexposed group), it also increases the chances of detecting and documenting changes in health outcomes, including CVD-related events. Therefore, it may lead to the conclusion that higher BP leads to more CVD events. This may be true, but it could also be due to the fact that the subjects with higher BP were seen more often; thus, more CVD-related events were detected and documented simply because they had more encounters with the health care system. Thus, it could bias the results and lead to an erroneous conclusion.

Question 10. Repeated exposure assessment

Was the exposure for each person measured more than once during the course of the study period? Multiple measurements with the same result increase our confidence that the exposure status was correctly classified. Also, multiple measurements enable investigators to look at changes in exposure over time, for example, people who ate high dietary sodium throughout the followup period, compared to those who started out high then reduced their intake, compared to those who ate low sodium throughout. Once again, this may not be applicable in all cases. In many older studies, exposure was measured only at baseline. However, multiple exposure measurements do result in a stronger study design.

Question 11. Outcome measures

Were the outcomes defined in detail? Were the tools or methods for measuring outcomes accurate and reliable–for example, have they been validated or are they objective? This issue is important because it influences confidence in the validity of study results. Also important is whether the outcomes were assessed in the same manner within groups and between groups.

An example of an outcome measure that is objective, accurate, and reliable is death–the outcome measured with more accuracy than any other. But even with a measure as objective as death, there can be differences in the accuracy and reliability of how death was assessed by the investigators. Did they base it on an autopsy report, death certificate, death registry, or report from a family member? Another example is a study of whether dietary fat intake is related to blood cholesterol level (cholesterol level being the outcome), and the cholesterol

level is measured from fasting blood samples that are all sent to the same laboratory. These examples would get a "yes." An example of a "no" would be self-report by subjects that they had a heart attack, or self-report of how much they weigh (if body weight is the outcome of interest).

Similar to the example in Question 9, results may be biased if one group (e.g., people with high BP) is seen more frequently than another group (people with normal BP) because more frequent encounters with the health care system increases the chances of outcomes being detected and documented.

Question 12. Blinding of outcome assessors

Blinding means that outcome assessors did not know whether the participant was exposed or unexposed. It is also sometimes called "masking." The objective is to look for evidence in the article that the person(s) assessing the outcome(s) for the study (for example, examining medical records to determine the outcomes that occurred in the exposed and comparison groups) is masked to the exposure status of the participant. Sometimes the person measuring the exposure is the same person conducting the outcome assessment. In this case, the outcome assessor would most likely not be blinded to exposure status because they also took measurements of exposures. If so, make a note of that in the comments section.

As you assess this criterion, think about whether it is likely that the person(s) doing the outcome assessment would know (or be able to figure out) the exposure status of the study participants. If the answer is no, then blinding is adequate. An example of adequate blinding of the outcome assessors is to create a separate committee, whose members were not involved in the care of the patient and had no information about the study participants' exposure status. The committee would then be provided with copies of participants' medical records, which had been stripped of any potential exposure information or personally identifiable information. The committee would then review the records for prespecified outcomes according to the study protocol. If blinding was not possible, which is sometimes the case, mark "NA" and explain the potential for bias.

Question 13. Followup rate

Higher overall followup rates are always better than lower followup rates, even though higher rates are expected in shorter studies, whereas lower overall followup rates are often seen in studies of longer duration. Usually, an acceptable overall followup rate is considered 80 percent or more of participants whose exposures were measured at baseline. However, this is just a general guideline. For example, a 6-month cohort study examining the relationship between dietary sodium intake and BP level may have over 90 percent followup, but a 20-year cohort study examining effects of sodium intake on stroke may have only a 65 percent followup rate.

Question 14. Statistical analyses

Were key potential confounding variables measured and adjusted for, such as by statistical adjustment for baseline differences? Logistic regression or other regression methods are often used to account for the influence of variables not of interest.

This is a key issue in cohort studies, because statistical analyses need to control for potential confounders, in contrast to an RCT, where the randomization process controls for potential

confounders. All key factors that may be associated both with the exposure of interest and the outcome–that are not of interest to the research question–should be controlled for in the analyses.

For example, in a study of the relationship between cardiorespiratory fitness and CVD events (heart attacks and strokes), the study should control for age, BP, blood cholesterol, and body weight, because all of these factors are associated both with low fitness and with CVD events. Well-done cohort studies control for multiple potential confounders.

Some general guidance for determining the overall quality rating of observational cohort and cross-sectional studies

The questions on the form are designed to help you focus on the key concepts for evaluating the internal validity of a study. They are not intended to create a list that you simply tally up to arrive at a summary judgment of quality.

Internal validity for cohort studies is the extent to which the results reported in the study can truly be attributed to the exposure being evaluated and not to flaws in the design or conduct of the study–in other words, the ability of the study to draw associative conclusions about the effects of the exposures being studied on outcomes. Any such flaws can increase the risk of bias.

Critical appraisal involves considering the risk of potential for selection bias, information bias, measurement bias, or confounding (the mixture of exposures that one cannot tease out from each other). Examples of confounding include co-interventions, differences at baseline in patient characteristics, and other issues throughout the questions above. High risk of bias translates to a rating of poor quality. Low risk of bias translates to a rating of good quality. (Thus, the greater the risk of bias, the lower the quality rating of the study.)

In addition, the more attention in the study design to issues that can help determine whether there is a causal relationship between the exposure and outcome, the higher quality the study. These include exposures occurring prior to outcomes, evaluation of a dose-response gradient, accuracy of measurement of both exposure and outcome, sufficient timeframe to see an effect, and appropriate control for confounding–all concepts reflected in the tool.

Generally, when you evaluate a study, you will not see a "fatal flaw," but you will find some risk of bias. By focusing on the concepts underlying the questions in the quality assessment tool, you should ask yourself about the potential for bias in the study you are critically appraising. For any box where you check "no" you should ask, "What is the potential risk of bias resulting from this flaw in study design or execution?" That is, does this factor cause you to doubt the results that are reported in the study or doubt the ability of the study to accurately assess an association between exposure and outcome?

The best approach is to think about the questions in the tool and how each one tells you something about the potential for bias in a study. The more you familiarize yourself with the key concepts, the more comfortable you will be with critical appraisal. Examples of studies rated good, fair, and poor are useful, but each study must be assessed on its own based on the details that are reported and consideration of the concepts for minimizing bias.

Appendix C

Journal Author Guidelines

2. AIMS AND SCOPE

The Journal of Clinical Nursing (JCN) is an international, peer reviewed, scientific journal that seeks to promote the development and exchange of knowledge that is directly relevant to all spheres of nursing practice. The primary aim is to promote a high standard of clinically related scholarship which advances and supports the practice and discipline of nursing. The Journal also aims to promote the international exchange of ideas and experience that draws from the different cultures in which practice takes place. Further, JCN seeks to enrich insight into clinical need and the implications for nursing intervention and models of service delivery. Emphasis is placed on promoting critical debate on the art and science of nursing practice.

JCN is essential reading for anyone involved in nursing practice, whether clinicians, researchers, educators, managers, policy makers, or students. The development of clinical practice and the changing patterns of inter-professional working are also central to JCN's scope of interest. Contributions are welcomed from other health professionals on issues that have a direct impact on nursing practice.

We publish high quality papers from across the methodological spectrum that make an important and novel contribution to the field of clinical nursing (regardless of where care is provided), and which demonstrate clinical application and international relevance.

Topics include but are not limited to:
• Development of clinical research, evaluation, evidence-based practice and scientific enquiry;
• Patient and family experiences of health and health care; illness and recovery;
• Nursing research to enhance patient safety and reduce harm to patients;
• The nature of nursing need, intervention, social interaction and models of service delivery;
• Clinical nursing leadership;
• Examination of clinical decision-making;
• Exploration of organisational or systemic factors that enhance or impede the provision of effective, high-quality nursing care;
• Application and dissemination of clinical knowledge and theory;
• Role development and inter-disciplinary working, exploring the scope and changing boundaries of clinical nursing; and
• Cultural comparisons and evaluations of nursing practice in different health sectors, social and geographical settings.

Useful Resources
Nurse Author & Editor is a valuable resource for authors, editors and reviewers involved or wanting to become involved in nursing journals and the free Nurse Author & Editor newsletter contains useful articles including the Writing for Publication **booklet** which you may find helpful.

If you are presenting a paper from a study from which publications have already been drawn, or are planned, please carefully read our ***guidance pertaining to multiple publications from a single study.***

3. MANUSCRIPT CATEGORIES AND REQUIREMENTS

i. Original Articles
Pilot studies are not suitable for publication as original articles.
Word limit: 8,000 words maximum (quotations are included in the overall word count of articles, and abstract, references, tables and figures are excluded).
Abstract: 300 words maximum, and structured under the sub-headings: Aims and objectives; Background

(stating what is already known about this topic); Design; Methods (for both qualitative and quantitative studies state n); Results (do not report p values, confidence intervals and other statistical parameters); Conclusions (stating what this study adds to the topic); Relevance to clinical practice.
Main text structure: Introduction (putting the paper in context - policy, practice or research); Background (literature); Methods (design, data collection and analysis); Results; Discussion; Conclusion; Relevance to clinical practice.
References: 50 maximum; all references must be available in English
Impact Statement: should contain 2-3 bullet points under the heading 'What does this paper contribute to the wider global clinical community?'
Research Reporting Checklist: May be required. Please see **Section 5**.

ii. Review Articles
Literature reviews on any area of research relevant to clinical nursing are welcomed.
Word limit: 8,000 words maximum (quotations are included in the overall word count of articles, and abstract, references, tables and figures are excluded).
Main text structure: Review Articles should be structures, under the sub-headings: Introduction, Aims, Methods, Results, Discussion, Conclusion, and Relevance to Clinical Practice.
References: 50 maximum; all references must be available in English
Research Reporting Checklist: Required. Please see **Section 5**.

iii. Discursive Articles
Word limit: 8,000 words maximum.
Main text structure: Aims; Background; Design (stating that it is a position paper or critical review, for example); Method (how the issues were approached); Conclusions, Relevance to clinical practice.

iv. Special Issue Articles
Authors interested in submitting a paper for a forthcoming Special Issue must contact the Editorial Office to discuss and agree submission of the paper with the designated Special Issue Guest Editor before submission to the journal takes place. Upon submission, Authors must indicate that the paper is to be considered for a Special Issue.

v. Registered Report
Journal of Clinical Nursing is now considering submissions of Registered Reports. Registered Reports are a new form of empirical article in which the methods and proposed analyses are pre-registered and reviewed prior to research being conducted. For more information please refer to our **Registered Reports guidelines**.

4. PREPARING YOUR SUBMISSION

Cover Letters
All manuscripts submitted to Journal of Clinical Nursing should include a covering letter stating on behalf of all the authors that the work has not been published and is not being considered for publication elsewhere. Any previous submission of the work, in any form, must be declared. If the study that is being submitted is similar in any way to another study previously submitted/published or is part of multiple studies on the same topic, a brief sentence explaining how the manuscript differs and that there is no identical material should be stated in the cover letter upon submission. Manuscripts undergo a similarity check when submitted and your article may be returned to you, if the above has not been adhered to.

Parts of the Manuscript
The manuscript should be submitted in separate files: title page; main text file; figures.

Title Page:

The title page should be submitted separately to the main file and contain:
i. A short informative title that contains the major key words. The title should not contain abbreviations (see **Wiley's best practice SEO tips**).

ii. A short running title of less than 40 characters
iii. The full names of the authors
iv. The authors' institutional affiliations at which the work was carried out
v. Corresponding author's contact email address and telephone number
vi. Acknowledgements.
vii. Conflict of Interest Statement
viii. Funding or sources of support in the form of grants, equipment, drugs etc.
The present address of any author, if different from that where the work was carried out, should be supplied in a footnote.

Authorship
For details on eligibility for author listing, please refer to the journal's Authorship policy outlined in the Editorial Policies and Ethical Considerations section.

Acknowledgments
Contributions from individuals who do not meet the criteria for authorship should be listed, with permission from the contributor, in an Acknowledgments section. Financial and material support should also be mentioned. Thanks to anonymous reviewers are not appropriate.

Conflict of Interest Statement
Authors will be asked to provide a conflict of interest statement during the submission process. See 'Conflict of Interest' section in Editorial Policies and Ethical Considerations for details on what to include in this section. Authors should ensure they liaise with all co-authors to confirm agreement with the final statement.

Main Text File and Figures
The main text file should be presented in the following order:
i. Title, abstract and key words;
ii. Main text;
iii. References;
iv. Tables (each table complete with title and footnotes);
v. Figure legends;
vi. Appendices (if relevant).
Figures and supporting information should be supplied as separate files.

Title
The title must contain both a descriptive and concise title of the paper. Country names are only to be included in titles where it is made clear the content is being compared and contrasted to the International arena.

Keywords
Please provide up to 10 keywords When selecting keywords, Authors should consider how readers will search for their articles. Keywords should be taken from those recommended by the US National Library of Medicine's Medical Subject Headings (MeSH) browser list at **https://www.nlm.nih.gov/mesh/**.

Main Text
• As papers are double-blind peer reviewed, the main text file should not include any information that might identify the authors.
• All articles must be relevant to an international audience. Authors should explain policies, practices and terms that are specific to a particular country or region; outline the relevance of the paper to the subject field internationally and also its transferability into other care settings, cultures or nursing specialities; placed discussions within an international context any papers exploring focussed cultural or other specific issues, and that clinical issues are put into context to other geographical regions and cultural settings.
• The journal uses British/US spelling; however, authors may submit using either option, as spelling of accepted papers is converted during the production process.

• Footnotes to the text are not allowed and any such material should be incorporated into the text as parenthetical matter.

References

APA Style

References should be prepared according to the Wiley APA Manual Style. Detailed guide and examples can be found here: **https://authorservices.wiley.com/author-resources/Journal-Authors/Prepare/manuscript-preparation-guidelines.html/index.html**

Tables
Tables should be self-contained and complement, not duplicate, information contained in the text. They should be supplied as editable files, not pasted as images. Legends should be concise but comprehensive – the table, legend, and footnotes must be understandable without reference to the text. All abbreviations must be defined in footnotes. Footnote symbols: †, ‡, §, ¶, should be used (in that order) and *, **, *** should be reserved for P-values. Statistical measures such as SD or SEM should be identified in the headings.

Figure Legends
Legends should be concise but comprehensive – the figure and its legend must be understandable without reference to the text. Include definitions of any symbols used and define/explain all abbreviations and units of measurement.

Figures
Although we encourage authors to send us the highest-quality figures possible, for peer-review purposes we are happy to accept a wide variety of formats, sizes, and resolutions.
Click here for the basic figure requirements for figures submitted with manuscripts for initial peer review, as well as the more detailed post-acceptance figure requirements.

Figures submitted in colour will be reproduced in colour online free of charge. Please note, however, that it is preferable that line figures (e.g. graphs and charts) are supplied in black and white so that they are legible if printed by a reader in black and white. If an author would prefer to have figures printed in colour in hard copies of the journal, a fee will be charged by the Publisher.

Guidelines for Cover Submissions

If you would like to send suggestions for artwork related to your manuscript to be considered to appear on the cover of the journal, please follow these general guidelines: **https://authorservices.wiley.com/author-resources/Journal-Authors/Promotion/journal-cover-image.html**

Additional Files

Appendices
Appendices will be published after the references. For submission they should be supplied as separate files but referred to in the text.

Supporting Information
Supporting information is information that is not essential to the article but that provides greater depth and background. It is hosted online, and appears without editing or typesetting. It may include tables, figures, videos, datasets, etc. **Click here** for Wiley's FAQs on supporting information. Note, if data, scripts or other artefacts used to generate the analyses presented in the paper are available via a publicly available data repository, authors should include a reference to the location of the material within their paper.

General Style Points
The following points provide general advice on formatting and style.
• **Abbreviations:** In general, terms should not be abbreviated unless they are used repeatedly and the abbreviation is helpful to the reader. Initially, use the word in full, followed by the abbreviation in parentheses. Thereafter use the abbreviation only.
• **Units of measurement:** Measurements should be given in SI or SI-derived units. Visit the Bureau International des Poids et Mesures (BIPM) website at www.bipm.fr for more information about SI units.
• **Numbers:** numbers under 10 are spelt out, except for: measurements with a unit (8mmol/l); age (6 weeks old), or lists with other numbers (11 dogs, 9 cats, 4 gerbils).
• **Trade Names:** Chemical substances should be referred to by the generic name only. Trade names should not be used. Drugs should be referred to by their generic names. If proprietary drugs have been used in the study, refer to these by their generic name, mentioning the proprietary name and the name and location of the manufacturer in parentheses.

Conflict of Interest
The journal requires that all authors disclose any potential sources of conflict of interest. Any interest or relationship, financial or otherwise that might be perceived as influencing an author's objectivity is considered a potential source of conflict of interest. These must be disclosed when directly relevant or directly related to the work that the authors describe in their manuscript. Potential sources of conflict of interest include, but are not limited to, patent or stock ownership, membership of a company board of directors, membership of an advisory board or committee for a company, and consultancy for or receipt of speaker's fees from a company. The existence of a conflict of interest does not preclude publication. If the authors have no conflict of interest to declare, they must also state this at submission. It is the responsibility of the corresponding author to review this policy with all authors and collectively to disclose with the submission ALL pertinent commercial and other relationships.

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Authors should list all funding sources in the Acknowledgments section. Authors are responsible for the accuracy of their funder designation. If in doubt, please check the Open Funder Registry for the correct nomenclature: **http://www.crossref.org/fundingdata/registry.html**

Authorship
The list of authors should accurately illustrate who contributed to the work and how. All those listed as authors should qualify for authorship according to the following criteria:
1. Have made substantial contributions to conception and design, or acquisition of data, or analysis and interpretation of data;
2. Been involved in drafting the manuscript or revising it critically for important intellectual content;
3. Given final approval of the version to be published. Each author should have participated sufficiently in the work to take public responsibility for appropriate portions of the content; and
4. Agreed to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.
Contributions from anyone who does not meet the criteria for authorship should be listed, with permission from the contributor, in an Acknowledgments section (for example, to recognize contributions from people who provided technical help, collation of data, writing assistance, acquisition of funding, or a department chairperson who provided general support).
When submitting a manuscript authored by a group, the corresponding author should clearly indicate the preferred citation and identify all individual authors as well as the group name. Prior to submitting the article all authors should agree on the order in which their names will be listed in the manuscript.

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Section Two: Research Paper

The relationship between individual differences and nurses' attitudes towards service users with a psychiatric diagnosis

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Target journal: Journal of Clinical Nursing

Abstract

Aims and Objectives: To investigate the relationships between nurses' attachment style, emotional intelligence (EI), compassion satisfaction/fatigue, and their attitudes towards service users with a psychiatric diagnosis.

Background: Mental health stigma has been noted in both physical and mental health professionals including qualified and student nurses, which can lead to poorer quality care and adverse consequences. Theories about its development is limited, highlighting the importance of gaining an increased understanding of contributory factors.

Design: A cross sectional design was employed with 225 qualified and student nurses.

Method: Participants completed an online survey comprising of items relating to demographic data, the Professional Quality of Life measure, the Experiences of Close Relationships Short Form and the Short Profile of Emotional Competence. Participants were then shown a vignette describing a service-user with either a diagnosis of schizophrenia or a diagnosis of asthma and were asked to complete the Social Distance Scale in relation to the service-user, to rate levels of stigma.

Results: No significant differences in stigma were found between the two vignette groups, however various significant correlations and between group differences were found. Avoidant attachment style was found to have an indirect association with compassion satisfaction through intrapersonal EI and anxious attachment had both a direct association with compassion fatigue, and an indirect association through intrapersonal EI.

Conclusions: There are various possible explanations for why no differences in stigma were found between the two groups. However, the findings highlight the importance of intrapersonal EI in mediating the relationship between attachment style and compassion satisfaction/fatigue. This is of importance, given the positive correlation between stigma and compassion fatigue.

Relevance to Clinical Practice: A stronger evidence base is required to inform clinical practice. However, these findings suggest that EI training for nurses may be beneficial in reducing compassion fatigue and increasing compassion satisfaction.

Keywords: emotional intelligence, compassion, attachment, stigma, mental health, nurses

What does this paper contribute to the wider global clinical community?

- These findings may be consistent with other professional groups, and similar reviews should be undertaken accordingly.
- These findings highlight that it may be possible to reduce the risk of compassion fatigue, and increase compassion satisfaction in healthcare professionals, by fostering and nurturing emotional intelligence.

Introduction

One of the most established definitions of stigma is from Goffman (1963), who described it as a discrediting attitude and reduction of a person to someone who is tainted. Other conceptualisations have a more social component and include stereotyping or assigning negative social meanings to people, when their attributes are considered to be different or inferior to societal norms (Dudley, 2000). Link and Phelan (2001) expand on this and posit that stigma occurs in the context of a social, economic and power situation, where some 'us' and 'them' separation also occurs. The demarcation of these in and outgroups in this context, results in discrimination and loss of status, creating unequal outcomes for people.

It is widely acknowledged that mental health stigma and discrimination is a global issue (Gronholm, Henderson, Deb, & Thornicroft, 2017). A review of the literature highlights that mental health stigma has numerous far-reaching negative consequences including lower self-esteem and self-efficacy, negative consequences for employment and housing, and adverse effects on close interpersonal relationships (Sickel, Seacat, & Nabors, 2014). It has also been linked to poor physical health behaviours, increased mental health symptoms, poorer coping, less treatment-seeking, and reduced likelihood to adhere to mental health treatment plans (Sickel, Seacat, & Nabors, 2014).

In a narrative synthesis of systematic reviews published since 2012, Gronholm et al. (2017) found evidence for stigma reduction through interventions focused on increasing education and interpersonal contact with people with mental health difficulties. However, it is not only people who have little knowledge and contact with people with mental health difficulties who hold stigmatising attitudes. In a systematic review and meta-analysis of the literature, Giandinoto, Stephenson, and Edward (2018) found a large proportion of general hospital health professionals held stigmatising views towards people with a psychiatric diagnosis. Furthermore, mental health stigma has also been noted in mental health

professionals including psychiatrists (Švab, 2018). The frequency of mental health discrimination reported in surveys ranges from 16% to 44% from mental healthcare professionals and 17% to 31% in general medical healthcare (Henderson et al., 2014). Survey studies indicate that even in general medical settings, when the primary reason for seeking health is not related to their mental health, clients have been treated with a lack of dignity and care (Ross & Goldner, 2009).

In a qualitative study aiming to understand experiences of mental health stigma in different settings, participants described both a lack of support from mental health professionals, whilst also a sense of being intruded upon as a result of overprotective care, both of which they felt were discriminatory in nature (Hamilton et al., 2016). Participants also experienced a lack of support from physical health professionals and reported being treated with rudeness, dismissiveness and a lack of acknowledgement of the challenges presented by their mental health. They felt that physical health professionals did not listen to them or believe that they had genuine health problems, instead attributing their symptoms to their mental health. These findings are in line with those reported in Henderson et al.'s (2014) review of the literature of mental health stigma in physical and mental healthcare settings, which indicated that people with mental health difficulties receive lower quality treatment for various physical illnesses. They also found that healthcare professionals are less likely to believe that people with mental health diagnoses have serious medical disorders. This can result in the misattribution of symptoms to mental illness that was described in Hamilton et al.'s (2016) study, leading to hesitancy to refer to specialists, prescribe medications and initiate investigations, which can lead to adverse consequences and even death (Henderson et al., 2014).

One professional group who have been noted to hold stigmatising attitudes towards mental health is nurses. Nursing staff often work closest to and have everyday contact with

service-users (Mårtensson, Jacobsson, Engström, 2014). However, research suggests that nursing staff have less of an understanding of their role in supporting patients to recover from mental health difficulties than non-nursing staff (Cleary & Dowling, 2009). Furthermore, findings indicate that nursing students are more likely to believe that people with mental health difficulties do not try hard enough and are more pessimistic about their role in supporting them than medical students (Chang et al., 2017). Additionally, mental health nurses have been found to have more negative attitudes towards service-user recovery than those of the general population (Ross & Goldner, 2009).

However, the findings regarding nurses' attitudes towards service-users with mental health difficulties appear to be somewhat unclear. In an integrative review, de Jacq, Norful, and Larson (2016) compared attitudes between psychiatric nurses and those working in non-psychiatric settings, as well as between nurses and the general public. They reported mixed findings with regards to both psychiatric and non-psychiatric nurses' attitudes globally, with some studies finding mostly positive attitudes, some reporting negative attitudes and others reporting mixed attitudes. However, even in studies that reported mostly positive attitudes, there were some negative attitudes and several studies found that nurses' attitudes were less positive compared to other healthcare professionals, with attitudes comparable to those of the general public. The authors of this review posited that these variations may have in part been a result of different cultural attitudes and the use of different measurement tools. However, the lack of consistency between findings suggests the need for further research in this area.

Background

Theories about the development of mental health stigma in healthcare professionals is limited (Ahmedani, 2011). However, its prevalence and negative impacts highlight the importance of gaining an increased understanding of the phenomenon, including in nurses, as

nursing attitudes towards mental health difficulties have been found to significantly impact on the delivery of care (Newman, O'Reilly, Lee, & Kennedy, 2015)

Associations have been made between negative, stigmatising attitudes and various personal, demographic and occupational factors, including ethnicity, household income, job role, job experience and age (Chang et al., 2017; Henderson et al., 2014). However, it has also been argued that there may be links with various cognitive appraisals and psychological factors. A recent grounded theory study found that stigmatisation occurs when healthcare professionals do not see the person ahead of their mental health diagnosis, have a lack of awareness of how their beliefs, behaviours and unconscious biases contribute to stigma, feel pessimistic and helpless about the client's recovery and lack skills in working with mental health (Knaak & Patten, 2016).

Compassion

Similar to this is a theory of compassion, originating from the work of Goetz, Keltner, and Simon-Thomas (2010). They define compassion as the feeling that arises from witnessing another's suffering, which motivates a subsequent desire to help. They posit that the likelihood of compassion occurring is shaped by various appraisals, including how deserving of help the sufferer is perceived to be, and how able to cope and offer help the appraiser perceives themselves to be. When the appraiser does not perceive the sufferer to be deserving of help, and does not perceive themselves as being able to cope or to help, feelings of anger, distress, anxiety and fear can arise instead of compassion.

These feelings of anger, anxiety and fear may be in accord with the mental health stigma that has been noted in nursing staff, namely perceiving those with mental health difficulties as being dangerous, and having a desire for social distance from them (de Jacq et al., 2016). In line with this theory are the findings from Knaak & Patten's (2016) study which identified compassion fatigue as a common factor in the roots of stigma development.

Compassion Fatigue and Satisfaction

Professionals whose work involves helping others who are in distress can experience pleasure derived from doing their work well. Stamm (2010) referred to this as 'compassion satisfaction'. Conversely, she referred to the negative consequences of helping those who have experienced trauma and suffering, as 'compassion fatigue', which she posited had two components; secondary traumatic stress and burnout. According to Stamm, burnout is associated with feelings of hopelessness and difficulties in dealing with work or doing one's job effectively. These feelings usually have a gradual onset, can involve exhaustion, frustration, anger and depression, and may be associated with having a high workload or a non-supportive work environment. Secondary traumatic stress, relates to work-related exposure to people who have experienced extremely or traumatically stressful events. Effects may include fear, sleep difficulties, intrusive images, or the avoidance of reminders of the person's traumatic experiences. In an extension of Goetz et al.'s (2010) model of compassion, it may be that when a professional helper perceives their client as being deserving of help, and they feel able to provide that help, they experience compassion satisfaction. However, if they do not feel able to provide this help, as a result of burnout or secondary traumatic stress, they may experience compassion fatigue.

Despite the potential theoretical links between compassion fatigue and stigma, there does not appear to be any quantitative research exploring their relationship, specifically in nurses. Furthermore, high levels of work stress and burnout are common within the nursing profession (Khamisa, Peltzer, & Oldenburg, 2013), which contribute to compassion fatigue (Yang & Kim, 2012). This highlights a gap in the literature and indicates a need for research on this topic.

Emotional Intelligence

While burnout, secondary traumatic stress and lack of training may influence appraisals of ability to cope or help clients, other psychological factors may also contribute, including emotional intelligence (EI). The concept of EI was proposed by Salovey and Mayer (1990) as the *ability* to appraise, regulate, express and respond to emotional information in the self and others. Various other conceptual models have since been posited, including *trait* EI, which conceptualises EI as a personality trait as opposed to an ability. Zeidner, Hadar, Matthews and Roberts (2013) found that self-report trait EI was inversely related to compassion fatigue in health professionals. One theory is that emotionally intelligent individuals' emotional awareness and ability to regulate emotions enables them to better manage stressful situations (Salovey, Bedell, Detweiler, & Mayer, 1999; Zeidner et al., 2013).

There is little peer-reviewed research regarding the links between EI and mental health stigma, although preliminary findings suggest that the two constructs may be inversely correlated (Anderson, 2015). This highlights a gap in the literature, suggesting that further exploration between the relationships between EI, compassion satisfaction/fatigue and mental health stigma is warranted.

Attachment Style

Another psychological construct that has been linked to compassion fatigue is attachment style (West, 2015). Bowlby (1973) proposed that early childhood experiences lead to people developing internal working models (mental representations that influence expectations of the self and others, and guide behaviour accordingly) that persist across the lifespan and that these attachment styles influence relationships and styles of coping. More recent research has focused on adult attachment styles, from both a developmental perspective and a social psychology perspective (Shaver & Mikulincer, 2002). The social

perspective posits that adult attachment can be measured along two dimensions: anxiety and avoidance (Brennan, Clark, & Shaver, 1998). Attachment anxiety is associated with a negative sense of self, an excessive need for approval and the fear of rejection and abandonment from others. Attachment avoidance is associated with a negative image of others, excessive self-reliance and/or a fear of depending on others (Berry, Shah, Cook, Geater, Barrowclough, & Wearden, 2008; Brennan et al., 1998) People who score low on both dimensions are deemed to have a secure attachment style (Shaver & Mikulincer, 2009).

In a review of the literature regarding attachment style and burnout/compassion fatigue in health and human service workers (those who work with people in order to alleviate stress or suffering), West (2015) theorised that anxious attachment styles may contribute to 'overinvolvement' in relationships, and avoidant styles may contribute to emotional distance, which may result in feelings of inefficiency, or an inability to maintain self-other boundaries respectively, leading to negative stress responses. Accordingly, the findings from the review indicated that lower levels of compassion fatigue were associated with attachment security, whereas attachment anxiety was associated with higher levels. The findings for avoidant attachment were inconsistent and highlighted the need for further research into the relationship between attachment style and compassion fatigue.

There is very little research regarding the link between attachment style and stigma, and even less regarding its association with mental health stigma. However, as attachment style is thought to influence relationships and perceptions of the self and others across the lifespan (Bartholomew & Shaver, 1998; Bowlby, 1973), it may influence people's attitudes towards others (Gencoglu, Topkaya, Sahin, & Kaya, 2016). Gencoglu et al. (2016) found that people with a secure attachment style had lower stigma tendencies than those with insecure attachment styles. In line with this, Berry et al. (2008) found that higher staff avoidance was associated with poorer staff psychological mindedness, whilst lower anxiety and avoidance

were associated with positive therapeutic relationships. Conversely, insecure therapist attachment style is associated with poorer alliance in counselling relationships (Dunkle & Friedlander, 1996) and insensitive and inflexible interactions (Dozier, Cue, & Barnett, 1994).

It has been theorised that attachment style may influence the development of EI (Kafetsios, 2004). In line with this, Samadi, Kasaei, and Pour (2013) found that secure attachment styles significantly predicted all sub-dimensions of EI. Cherry, Fletcher, & O'Sullivan (2013) conducted a quantitative analysis of the relationships between attachment style, EI and clinical communication skills between medical students and their patients. They found negative correlations between EI and attachment avoidance, and positive correlations between EI and clinical communication skills. Furthermore, structural equation modelling revealed that attachment avoidance accounted for 13% of the variance in students' EI scores, but did not directly predict their clinical communication, and their EI scores predicted 7% of the variance in their clinical communication.

Research suggests that attachment style develops in early childhood and is somewhat stable across the lifespan (West & Sheldon-Keller, 1994), while EI appears to increase with age and experience (Mayer, Salovey, & Caruso, 2002). Cherry et al. (2013) therefore hypothesised that attachment style would influence clinical communication directly, but would also influence EI, which in turn would affect clinical communication. The present study hypothesised a similar model: that attachment style would influence EI, and that both attachment style and EI would directly influence compassion satisfaction/fatigue, which in turn would influence stigma (Figure 1).

[Insert Figure 1 here]

Rationale and Aim of Current Study

Although theoretical and research literature suggests that attachment style, EI, and compassion fatigue/satisfaction may be related to stigma, there is no literature specifically

investing their relationships generally, or more specifically in relation to mental health stigma in nurses. Therefore, this study aimed to explore the relationships between attachment style, EI, compassion fatigue/satisfaction and nurses' attitudes towards service users with a psychiatric diagnosis. It was hypothesised that participants would have higher levels of stigmatising attitudes towards a service user with a psychiatric diagnosis, than one with a physical health condition.

Method

Design and Materials

This quantitative cross-sectional study was undertaken through completion of an online survey (see Appendix A for materials). A small incentive of the chance to win shopping vouchers was offered. The design of administering questionnaires via an online survey was led by discussions with two members of the target participant population. During the development stage, the questionnaire was trialled with a research nurse to assess its appropriateness, relevance and understandability.

1) Demographic and Occupational Information. Participants were asked to provide various demographic and occupational information, such as their gender, age, country of employment, length of qualification, and whether they worked shift patterns and had managerial responsibility.

2) Professional Quality of Life. Compassion satisfaction/fatigue was measured with the Professional Quality of Life (ProQOL) Version 5 (Stamm, 2009). The original measure comprises of 30 items regarding the participant's experiences in their current work as a helper across three subscales (compassion satisfaction, burnout and secondary traumatic stress). The original author of the study found that the tool had adequate psychometric properties (Stamm, 2010). However, a recent study examined the construct validity of the Pro-QOL scale using a Rasch analysis procedure (Heritage, Rees, & Hegney, 2018). The authors analysed the

responses from 1615 nurses who had completed the Pro-QOL and found support for invariance, person/item fit, and unidimensionality of the compassion satisfaction scale. However, they found that the burnout and secondary traumatic stress scales did not demonstrate adequate properties. Instead, they formed a revised compassion fatigue subscale which comprised of 11 items from both the burnout and secondary traumatic stress, to form a revised compassion fatigue subscale, which they found to be more robust. As such, only the compassion satisfaction subscale, and the revised compassion fatigue scale was included in the final analysis.

3) Emotional Intelligence. It has been posited that an individual's knowledge of how they should respond in situations, does not always translate into an ability to respond accordingly, and in turn, a tendency to do so (Mikolajczak, Brasseur, & Fantini-Hauwel, 2014). Therefore, the 20-item Short Profile of Emotional Competence (S-PEC) (Mikolajczak et al., 2014) was used to assess interpersonal and intrapersonal trait EI. This measure was designed to assess how people typically respond to situations, not their ability to (how they *can* respond), or their knowledge of how they *should* respond, and has been found to have adequate psychometric properties, including concurrent and predictive validity (Mikolajczak et al., 2014).

4) Attachment Style. Attachment style was assessed using The Experiences in Close Relationships Questionnaire (ECR)-Short Form (Wei, Russell, Mallinckrodt, & Vogel, 2007), which requires participants to consider how they generally feel in intimate relationships. This phraseology is designed to assess adult attachment independent of respondents' current circumstances. The original, longer version of the measure appears to be highly reliable, valid, and widely used to assess adult attachment (Wei et al., 2007). However, discussions with two members from the target participant population highlighted the importance of keeping the survey brief. As such, the short form of the measure was used, which consists of

12 self-report items across subscales (anxiety and avoidance). Research suggests that this is a reliable and valid measure of adult attachment, and the psychometric properties (internal consistency, test-retest reliability, factor structure, and validity) appear to be comparable to the original version (Wei et al., 2007).

5) Vignettes. Participants were randomly presented with one of two vignettes, which is one of the most common methodological approaches employed in the study of the stigma of mental illness (Link, Yang, Phelan, & Collins, 2004). The experimental vignette described a service-user with a diagnosis of schizophrenia, with a control vignette describing the same service-user with a diagnosis of asthma instead. Schizophrenia was the chosen diagnosis as research has suggested that it attracts the most stigma around dangerousness, unpredictability and unreliability (Rössler, 2016). Furthermore, Nordt, Rössler, and Lauber (2006) found that both mental health professionals and the general public showed less desire for social contact with people with schizophrenia compared to people with either a depression or no psychiatric symptoms. Additionally, in a systematic review and meta-analysis, Schomerus, Schwahn, Holzinger, Corrigan, Grabe, Carta and Angermeyer (2012) found that acceptance of people with schizophrenia as a co-worker or neighbour have reduced since 1990 and acceptance as a friend or in-law has remained low.

Asthma was chosen for the control vignette, following discussions with two nursing staff and the academic supervisor, as it was deemed to be an easily recognisable condition, irrespective of the level or area of training, and one which is not traditionally associated with significant levels of stigma. The vignettes were adapted from those used by Link et al. (1987). They describe a young man who is functioning well but experiences some mild levels of frustration. The aim of this was to elicit some desire for social distance whilst allowing observation of any effects resulting from the difference in presented diagnosis, should there be any.

6) Stigma. Stigma was measured using the Social Distance Scale (Link, Cullen, Frank, & Wozniak, 1987), which consisted of seven items relating to the presented vignette. Social distance is the level of social proximity one desires between oneself and another person (Smith & Cashwell, 2011) and is one of the most commonly used measures of stigma (Link et al., 2004). Scales measuring social distance have frequently been used in research regarding stigma, particularly with studies employing vignettes (Link et al., 2004) and The Social Distance Scale has good internal consistency and validity (Corrigan, Backs Edwards, Green, Lickey Diwan, & Penn, 2001).

Ethical Considerations

Ethical approval was granted by the Faculty of Health and Medicine Research Ethics Committee at Lancaster University, following which the NHS Health Research Authority gave approval for NHS staff to be recruited as participants. Attempts were made to maintain confidentiality by ensuring that participants were not recruited directly by members of the research team. At no point were participants' identifying information requested, unless they chose to be entered into the prize draw. This identifying information was stored separately from their survey responses.

Participants were not informed that they would be randomly allocated one of two diagnosis vignettes as it was anticipated that doing so may increase the risk of bias. However, participants were debriefed about the element of deception at the end of the survey and were provided with the lead researcher's contact details. Participants were provided with details about the nature of the questions in the survey before starting and were able to discontinue the study at any time and omit questions which they did not wish to answer.

Participants and Data Collection

Practicing qualified and student nurses were recruited from nine National Health Service Trusts in England. The study was advertised via emails sent from research and

development departments of participating Trusts, and via posters placed on the intranet, e-bulletins, and in newsletters. The study was also advertised on two social media websites (Twitter and Facebook) and data collection ran between January and May 2019.

Sample Size

There were seven independent variables in this study: attachment (anxiety/avoidance), compassion (satisfaction/fatigue), emotional intelligence (interpersonal/intrapersonal) and vignettes. It was expected that medium effect sizes would be detected given the existing literature in this field (for example, Dabby, Tranulis and Kirmayer's (2015) data suggests a large effect size for both of their participant groups when comparing their Social Distance Scale scores towards a vignette detailing an individual with schizophrenia with one describing an individual with a physical health condition). To detect medium effect sizes in regression, Green (1991) recommends $n>104+m$, (with m referring to the number of variables), resulting in a minimum participant number of $n>111$ for this study.

Data Analysis

Boxplots were used to identify outliers. As none were influential, they were not excluded from the analysis. Normality was assessed using the Shapiro-Wilk test.

Descriptive statistics were conducted to examine and summarise demographic characteristics of the participants. T-tests and one-way ANOVAs were undertaken to test for between group differences in EI, attachment style, compassion satisfaction/fatigue and stigma scores, prior to Pearson's correlation analyses being conducted.

Finally, linear regression-based mediation and moderation analyses were undertaken to further explore these relationships. Given the hypothesised model referred to in Figure 2, based on research that attachment style may influence the development of EI (Cherry et al., 2014) and that secure attachment predicts EI (Samadi et al., 2013), EI was entered as mediator and moderator variables (see results section for details). All statistical analyses were

undertaken using SPSS Version 25 (IBM, 2017). Hayes' (2017) PROCESS tool Version 3.3 was used for the mediation analyses, which automatically applies bootstrapping (n=5000) to obtain best estimates of the model parameters.

Results

Descriptive Statistics

Participants were included in the final analysis if they had completed at least one of the standardised measures. A total of 234 respondents began the online survey. Nine of these (3.8%) discontinued after the demographic items and did not complete any of the standardised measures, so were excluded from the final analysis. All of the remaining 225 participants completed the ProQOL. 218 of these also completed the S-PEC, 212 completed the ProQOL, S-PEC and ECR, and 208 completed the whole survey. Demographic data of all respondents, the excluded participants, and the final included sample are detailed in Table 1.

[Insert Table 1 here]

The internal consistency of the measures for this sample was analysed by conducting Cronbach alpha analyses. Cronbach's alpha for the ProQOL was α=0.67 (α=0.90 for the compassion satisfaction subscale, α=0.86 for the compassion fatigue subscale). Cronbach's alpha for the S-PEC was α=0.76 (α=0.69 for the intrapersonal EI subscale and α=0.58 for the interpersonal EI subscale). For the ECR-S, α=0.79 (α=0.82 for the avoidance subscale and α=0.75 for the anxiety subscale), and for the Social Distance Scale was α=0.85.

Missing Data

Little's test of Missing Completely at Random (MCAR) was undertaken. The results were non-significant ($\chi 2$=1327.4, DF = 1344, p>0.05 = .30), suggesting that the data was MCAR. Imputations were not conducted and listwise deletion was undertaken instead, as data was MCAR and there was only a small number of deleted cases (Garson, 2015).

Between Group Differences in Stigma

On average, those who read the schizophrenia vignette scored slightly lower on stigma (M= 15.06, SE= 0.41) than those who had been shown the asthma vignette (M= 15.25, SE= 0.30). However these differences were not significant $t(190.63)= -0.37$, $p>0.05$. This lack of significant difference also held true when comparing individual items. Therefore, the hypothesis that stigma scores would be higher for the schizophrenia vignette was not supported. Stigma scores were also compared for different independent variables, including qualification status, length of qualification, training route, age, gender and personal/professional contact with people with mental health problems. Stigma scores were also compared based on whether participants worked in mental health or not, worked shifts, or had managerial responsibility. No differences in stigma scores were found based on any of these independent variables, for either the schizophrenia or asthma vignette (see Table 2).

[Insert Table 2 here]

Between Group Differences in Compassion Satisfaction/Fatigue

On average, students had higher levels of compassion satisfaction (M=42.1, SE= 0.62) than qualified staff (M=39.5, SE= 0.47). This was a significant difference $t(222)= 3.28$, $p=0.001$). There was no significant difference in compassion fatigue between these groups. Significant differences were also found between compassion satisfaction scores dependent on length of qualification ($F(3,186)= 3.67$, $p<0.05$). Tukey's HSD post hoc test was undertaken to identify between which groups these differences lay. Students reported significantly higher compassion satisfaction than those who had been qualified for up to 10 years at the .05 level of significance. No other comparisons were significant. Significant differences were found between compassion satisfaction scores dependent on age ($F(2,222)= 5.45$, $p=0.05$). Post hoc tests identified that those aged up to 27 reported more compassion satisfaction than those who were aged 28-40. No other comparisons were significant. There was no significant difference

in compassion fatigue scores between these groups. No significant differences were found in compassion satisfaction or fatigue scores based on gender, training route, whether participants worked shifts, had managerial responsibility, had personal or professional contact with people with mental health difficulties, or worked in mental health services (see Table 3).

[Insert Table 3 here]

Between Groups Differences in Attachment Style

Students reported significantly higher scores on the anxious attachment measure (M=21.72, SE=0.91) than qualified nurses (M=18.55, SE=0.65). This was a significant difference ($t(205)=2.80$, $p<0.05$). There was no significant difference in avoidant attachment between these groups. Similarly, significant differences were found between anxious attachment scores based on length of qualification ($F(3,177)=3.58$, $p<0.05$. Tukey's post hoc test identified that students reported significantly higher attachment anxiety than those who had been qualified for over 20 years. No other comparisons were significant. No significant differences were found in avoidant attachment scores between these groups. Those who worked shifts reportedly higher anxious attachment (M=20.96, SE=0.67) than those who did not (M=17.38, SE=0.83). This was a significant difference ($t(206)=3.35$, $p=0.001$). No significant differences were found in avoidant attachment scores between these groups. Those who had managerial responsibility reported lower scores for anxious attachment (M=17.03, SE=0.83) than those who did not (M=20.69, SE=0.66). This was a significant difference ($t(206)= -3.24$, $p=0.01$). No significant differences in attachment avoidance were found between these groups. Significant differences were found in anxious attachment scores based on age ($F(2,205)= 11.51$, $p<0.01$) but not avoidant attachment. Tukey's post hoc test identified that those aged 41 and over scored significantly lower on anxious attachment (M=16.49, SE=0.77) than those aged up to 27, and those aged 28-40. No other comparisons were significant. No significant differences in attachment anxiety or avoidance were found

dependent on gender, whether participants worked in mental health, or whether they had personal or professional contact with people with mental health difficulties (see Table 4).

[Insert Table 4 here]

Between Group Differences in Emotional Intelligence

No significant differences were found in interpersonal or intrapersonal EI between students and qualified nurses, or based on gender, age, length of qualification, training route, whether participants worked in mental health services, had professional or personal contact with people with mental health difficulties, or worked shifts. However, those who had managerial responsibility reported significantly higher intrapersonal EI (M=3.68, SE=0.06) than those who did not (M=3.51, SE=0.04) ($t(216)=2.17$, $p<0.05$) (see Table 5).

[Insert Table 5 here]

Correlations

As there were no significant differences in stigma scores between the experimental and control group, correlations were run on the whole data set, and were not split by vignette group. Stigma had a small positive correlation with compassion fatigue. Attachment avoidance had small positive correlations with attachment anxiety, and small negative correlations with intrapersonal EI and compassion satisfaction. Anxious attachment had a moderate positive correlation with compassion fatigue, and a small negative correlation with intrapersonal EI. Interpersonal EI had a large positive correlation with intrapersonal EI, and a small positive correlation with compassion satisfaction. Intrapersonal EI had a small positive correlation with compassion satisfaction, a small positive correlation with compassion fatigue. Compassion satisfaction had a medium negative correlation with compassion fatigue. Length of qualification was highly positively correlated with age ($r= 0.84$, $p<0.001$), therefore only length of qualification was entered into the correlation matrix. This had a small negative correlation with anxious attachment style (see Table 6).

[Insert Table 6 here]

Mediation Analyses

As only compassion fatigue was correlated with stigma, mediation analyses were not undertaken with stigma as the dependent variable. Only variables which were correlated with each other were entered into the mediation models. Model 1 was used to examine whether avoidant attachment style was indirectly associated with compassion satisfaction, through intrapersonal EI, and Model 2 examined whether anxious attachment style had an indirect association with compassion fatigue through intrapersonal EI (see Table 7).

Model 1 identified a significant indirect-only association of avoidant attachment on compassion satisfaction, through intrapersonal EI (*b*=-0.04, 95% CI [-0.08 to -0.01]). That is, avoidant attachment did not have a direct association with compassion satisfaction, but had an indirect association via intrapersonal EI. i.e., the higher an individual's level of avoidant attachment, the less able they are to recognise and respond to their emotions, and in turn, the less likely they are to be satisfied with their work as a helper.

Model 2 identified a complementary mediation. That is, both the direct association between anxious attachment and compassion fatigue, and the indirect association via intrapersonal EI (*b*=0.03, 95% CI [0.001-0.06]) are significant and the multiplication of their coefficients is positive (Zhao, Lynch, & Chen, 2010). This means that anxious attachment has a direct association with compassion satisfaction, in that the more anxious an individual's attachment style, the more likely they are to experience compassion fatigue in their role as a helper. Furthermore, anxious attachment has an indirect association with compassion fatigue via intrapersonal EI, meaning the more anxious an individual's attachment style, the less likely they are to be able to recognise and respond appropriately to their emotions, which in turn increases the likelihood of compassion fatigue (see Figure 1 for illustrations of Models 1 and 2).

Moderation Analyses

Model 3 examined whether intrapersonal EI moderated the relationship between avoidant attachment and compassion satisfaction and Model 4 examined whether intrapersonal EI moderated the relationship between anxious attachment and compassion fatigue. Neither Model 3 nor 4 was significant.

Discussion

Mental health stigma has been noted in nurses (Mårtensson et al., 2014; Ross & Goldner, 2009), though these findings are inconsistent in the research literature to date. Theoretical and research literature has suggested that attachment style, EI, and compassion fatigue/satisfaction may be related to stigma, however, there is no literature investigating their relationships generally, or more specifically in relation to mental health stigma in nurses. Therefore, the aim of this research was to address these gaps in the literature, by exploring these relationships. It was hypothesised that social distance (stigma) scores would be higher for those who had been presented with the schizophrenia vignette than those who had read the asthma vignette.

Summary of Findings

No significant differences were identified in stigma scores based on whether participants were allocated to the experimental or control group; that is, whether participants read a vignette relating to a service-user with a diagnosis of schizophrenia or asthma. These findings do not support previous research that found higher stigma ratings from healthcare professionals regarding a mental illness vignette compared to a chronic physical illness (diabetes) vignette (Minas, Zamzam, Midin, & Cohen, 2011). Furthermore, no significant differences were found in stigma scores dependent on any independent variables. This is a positive finding, as mental health stigma has been linked to various negative consequences relating to social and relational outcomes, and both physical and mental health (Sickel et al.,

2014). The findings are particularly positive, given that people with a diagnosis of schizophrenia are particularly stigmatised against, and both professionals and the general public show a disproportionately increased desire for social distance from people with the diagnosis (Nordt et al., 2006).

It may be that the findings from the current study suggest a reduction in mental health stigma. However, there are also a number of other possible explanations for this finding. This sample of nurses reported high levels of contact with people with mental health difficulties, with 71.6% reporting having a friend or family with mental health problems, and 72% reporting having had professional contact with someone with mental health problems. Given that higher levels of personal experience of mental health difficulties are linked to more positive attitudes (Evans-Lacko, Henderson, & Thornicroft, 2013) and interpersonal contact with stigmatised groups appears to be one of the most effective ways of reducing mental health stigma (Gronholm et al., 2017), it may be that this sample did not hold such high levels of stigmatising attitudes. However, analysis of the results did not identify significant differences in stigma scores between these groups, but as only 6.7% (n=15) of the sample had neither professional nor personal contact with people with mental health difficulties, limited inferences can be made about these results.

An alternative explanation for this finding may be that participants were responding in a socially desirable manner, particularly as scores were actually slightly higher for the asthma vignette than the schizophrenia vignette. Although this difference was non-significant, the results indicated that respondents desired more social distance from the service-user with asthma than the one with schizophrenia. Although efforts were made to limit the likelihood of social desirability bias by ensuring participant anonymity, this may not have been sufficient. Furthermore, research suggests that explicit, self-reported attitudes can be distinct from, and in conflict with implicit attitudes; those which are evoked automatically, without intention or

awareness (Nosek, 2005). Qualitative research suggests that often it is only after receiving anti-stigma interventions that healthcare professionals become aware of their unconscious and unintended stigmatising attitudes (Knaak & Patten, 2016). Consideration was given to using a measure of implicit attitudes, such as the Implicit Association Test in the present study. However, the reliability and validity of the measure has been called into question (Rezaei, 2011) and including an additional, longer measure that required access to a computer may have had a negative impact on rates of attrition.

The findings of the current study suggested that students had significantly higher levels of compassion satisfaction than qualified staff. Nursing students in the UK typically have a number of short placements in a variety of settings. It may be that the novelty of the role, in addition to the broad range of experience gained in a relatively short period of time contributes to these higher levels of satisfaction. This may also be linked to research that suggests that empathy declines in medical and nursing students through training (Nunes, Williams, Bidyadhar, & Stevenson, 2011). Future qualitative research exploring this relationship is warranted.

Student nurses also reported significantly higher scores on the anxious subscale than qualified nurses. More specifically, this difference appeared to be between student nurses and those who had been qualified for over 20 years. However, this difference may in part be related to age; those aged 41 and over scored significantly lower on anxious attachment than their younger counterparts. No differences were found in avoidant attachment style dependent on qualification status, length of qualification or age. These findings are in line with those from previous research, which have found older adults to report less anxious and preoccupied attachment styles than younger adults (Mickelson et al., 1997; Segal, Needham, & Coolidge, 2009; Zhang & Labouvie-Vief, 2004) and no age differences in avoidant or dismissive attachment styles (Segal et al., 2009). Although Bowlby (1973) and later, Bartholomew and

Shaver (1998) posited that attachment styles continue to have an impact across the lifespan, Segal et al. (2009) hypothesised a number of possible reasons for the reduction in reported anxious attachment style with age. They suggested that older adults may experience less anxiety than their younger counterparts, due to historical, generational and contextual factors. Additionally, they suggested that the older participants may be less willing to report anxious feelings or behaviours regarding their relationships because of differences in attitudes towards identifying and sharing feelings. The cross-sectional nature of the current study makes inferences about the results more challenging, and future longitudinal research is therefore warranted.

The only differences in EI were noted between those who had managerial responsibility and those who did not. Those with managerial duties reported significantly higher levels of intrapersonal EI. This finding is of interest, as it may be expected that those in nursing management positions would be required to be particularly skilled in recognising and responding to others' emotions. However, the findings from this study suggest that managerial nurses were particularly adept at recognising and responding to their own emotions. This is in line with previous research which found that increased emotional awareness and ability to regulate one's own emotions may result in increased ability to manage stressful situations and experience lower stress-levels (Salovey et al., 1999; Zeidner, et al., 2013), which may be beneficial for managerial roles.

Although there were no significant differences in stigma scores based on levels of compassion fatigue, there was a small but significant positive correlation between the two variables, suggesting that reducing compassion fatigue may have a positive impact on attitudes towards service-users. These findings are in line with those from Knaak & Patten's (2016) study which identified compassion fatigue as a common factor in the roots of stigma development. In the present study, compassion fatigue was correlated with various other

variables, including a positive correlation with anxious attachment style and a negative correlation with intrapersonal EI. Conversely, compassion satisfaction was negatively correlated with avoidant attachment and positively correlated with both intrapersonal and interpersonal EI. Both avoidant attachment and anxious attachment style were negatively correlated with intrapersonal EI.

Avoidant attachment style was found to have an indirect-only association with compassion satisfaction, through intrapersonal EI. That is, those with higher levels of avoidant attachment are less able to recognise and respond appropriately to their emotions, which in turn reduces the likelihood of being satisfied in their role as a helper. Complementary-mediation was found in the relationship between anxious attachment style and compassion fatigue. That is, anxious attachment style has a direct association with compassion fatigue, and also has an indirect association through intrapersonal EI; those who have higher levels of anxious attachment are less able to recognise and respond appropriately to their emotions, thereby increasing their risk of compassion fatigue. This is a novel finding, which provides greater insight into the relationships between attachment style and compassion fatigue. It may previously have been assumed that satisfaction or fatigue with one's work in helping others in distress, may be linked to interpersonal EI, that is the ability to recognise and respond to others' emotions. However, these findings suggest that it is the ability to recognise and respond appropriately to one's own emotions that are key. The mediating effect of intrapersonal EI in the relationship between avoidant attachment and compassion satisfaction is of particular interest, given that individuals who score high on the avoidance dimension tend to describe a reduced desire to form and maintain close relationships with others (Brennan et al., 1998).

Strengths and Limitations

This was the first study to investigate the relationship between attachment style, EI, compassion satisfaction/fatigue and mental health stigma in nurses. However various limitations should be acknowledged. As discussed previously, it is possible that socially desirable responding bias was present, particularly with regards to the measure of stigma. Furthermore, it is possible that the measure of stigma used in this study did not adequately assess attitudes towards service-users. Although the Social Distance Scale is one of the most commonly used measures of stigma, particularly in studies employing vignettes (Link et al., 2004) and is often used in studies relating to mental health (Corrigan et al., 2001), it may not be an adequate measure of mental health stigma in this population. In a review of the literature, Henderson et al., (2014) found that service-users with mental health difficulties experienced healthcare professionals as overprotective and they described feeling as though they were treated as children. This suggests that stigmatising attitudes can manifest in a number of different ways, and may be present, even if a desire for social distance is not.

Furthermore, a strength of this study was the brevity and low demand on participants. This was achieved through the use of short-forms of standardised measures. However, a consequence of this is that the inferences that can be made from the findings are limited. For example, Mikolajczak et al. (2014) recommend that it is preferable to use the full 50-item version of the PEC instead of the S-PEC when one is interested in subscale scores. However, when assessing factor scores (intrapersonal and interpersonal EI), the shorter version is sufficient. Therefore, more in-depth inferences cannot be made regarding the reasons behind the relationships between EI and other variables in this study.

All measures used in this study were found to have adequate to excellent internal consistency, with the exception of the interpersonal EI subscale of the S-PEC, which had a Cronbach's alpha of only 0.58. Although there is no uncontested 'gold-standard' Cronbach's

alpha score, guidelines recommend that measures should score at least 0.60. The lower score for this subscale should therefore be recognised as a limitation of the study.

Further Research and Clinical Implications

Given the above findings, future research should further evaluate the theory that high levels of personal contact with people with mental health difficulties resulted in lower levels of mental health stigma in this study. If supported, these findings could be incorporated into recruitment processes for employers and university courses, by assessing prospective nurses' capacity to reflect on personal experience of mental health.

This study could also be replicated but using both measure of implicit and explicit attitudes towards mental health stigma, with the aim of ascertaining whether social desirability may have impacted on stigma scores. In addition, alternative measures of stigma and full-version measures of the other variables could be employed. Future research should also explore whether the findings from this study that students experience more compassion satisfaction than qualified staff are replicated. If so, a mixed methods approach is recommended to gain a qualitative understanding of the reasons behind this.

The findings from this study suggest that EI training for both students and qualified nurses may be beneficial in increasing compassion satisfaction and protecting against compassion fatigue, particularly if attention is focussed on intrapersonal EI. Furthermore, clinical supervision should be provided to nurses, with a focus on self-reflection and the development of intrapersonal EI. Future research should then evaluate the impact of such interventions.

Conclusions

The present study aimed to explore the relationships between attachment style, EI, compassion fatigue/satisfaction and mental health stigma in nurses. It was hypothesised that

social distance (stigma) scores would be higher for those who had been presented with the schizophrenia vignette than those who had seen the asthma vignette.

This hypothesis was rejected, as no significant differences were found in stigma scores based on any of the other variables. This was a positive finding, given the negative consequences of mental health stigma, particularly from healthcare professionals. Various possible explanations for this finding were suggested, including 1) a reflection of reduced levels of mental health stigma; 2) high levels of personal contact with people with mental health problems; 3) socially desirable responding and; 4) insufficient assessment of stigmatising attitudes. Further research is required to understand these findings.

Various between group differences were noted in relation to levels of compassion satisfaction/fatigue, EI and attachment style and numerous correlations were found. Avoidant attachment was found to have an indirect association with compassion satisfaction, via intrapersonal EI, and anxious attachment was found to have both a direct association with compassion fatigue, and an indirect association via intrapersonal EI. As such, various recommendations for future research and clinical implications are highlighted.

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Table 1
Demographic Information

	Included sample (n= 225)	All respondents (n= 234)	Excluded respondents (n= 9)
Age Mean (S.D)	18-65 years M= 35.24	18-65 years, M= 35.3 (12.1)	28-46 years M= 38.7 (7.4)
Gender n (%)	Male= 36 (16.0) Female= 188 (83.6) Non-binary= 1 (0.4)	Male = 38 (16.2) Female = 192 (82.1) Non-binary = 1 (0.4)	Male= 2 (22.2) Female= 4 (44.4)
Country n (%)	U.S.= 1 (0.4) U.K.= 222 () England= 152 Northern Ireland= 2 Wales =1 Scotland= 5 Not specified= 62	U.S.= 2 (0.9) U.K. = 227 (97.0) England = 156 Northern Ireland 2 Wales= 1 Scotland= 5 Not specified= 63	U.S.= 1 (11.1) U.K.= 5 (55.6) England= 4 Not specified= 1
Qualification Status n (%)	Student= 75 (33.3) Qualified= 149 (66.2)	Student = 77 (32.9) Qualified = 156 (66.7)	Student= 2 (22.2) Qualified= 7 (77.8)
Length of Qualification Mean (SD)	0-43 years M= 8.7 (11.4)	0-43 years M= 8.8 (11.5)	0-42 years M= 11.4 (13.7)
Training route n (%)	Diploma= 56 (24.9) Degree = 144 (64.0) Traditional training (SRN) = 23 (10.2) Apprenticeship = 1 (0.4)	Diploma= 56 (23.9) Degree = 152 (65.0) Traditional training (SRN) = 23 (9.8) Apprenticeship = 2 (0.9)	Degree = 8 (88.9) Apprenticeship=1 (11.1)

	Included sample (n= 225)	All respondents (n= 234)	Excluded respondents (n= 9)
Specialty n (%)	Physical Health = 126 (56.0) Mental Health = 98 (43.6) Learning Disability = 23 (10.2) Forensic = 12 (5.3) Substance Misuse = 15 (6.7) Other = 16 (7.1)	Physical Health = 130 (55.6) Mental Health = 100 (42.7) Learning Disability = 23 (9.8) Forensic = 12 (5.1) Substance Misuse = 15 (7.3) Other = 17 (7.3)	Physical Health = 4 (44.4) Mental Health = 2 (22.2) Other = 1 (11.1)
Client Group n (%)	Adults= 191 (84.9) Children= 45 (20.0) Older Adults= 87 (38.7) Other= 1 (0.4)	Adults= 196 (83.8) Children= 46 (19.7) Older Adults= 89 (38.0) Other= 1 (0.4)	Adults= 5 (55.6) Children= 1 (11.1) Older Adults= 2 (22.2)
Setting n (%)	Inpatient/Hospital= 148 (65.8) Outpatient/Community= 147 (65.3) Other= 10 (4.4)	Inpatient/Hospital= 154 (65.8) Outpatient/Community= 147 (62.8) Other= 11 (4.7)	Inpatient/Hospital= 6 (66.7) Other= 1 (11.1)
Sector n (%)	NHS= 217 (96.4) Private= 7 (3.1) Charitable= 8 (3.6) Other= 6 (2.7)	NHS= 222 (94.9) Private= 7 (3.0) Charitable= 8 (3.4) Third Sector= 1 (0.4) Other= 6 (2.6)	NHS= 5 (55.6) Third sector= 1 (11.1)
Shifts	Yes= 139 (61.8) No= 86 (38.2)	Yes= 145 (62.0) No= 86 (36.8)	Yes= 6 (66.7)

	Included sample (n= 225)	All respondents (n= 234)	Excluded respondents (n= 9)
Managerial Responsibility	Yes= 69 (30.7) No= 156 (69.3)	Yes= 72 (30.8) No= 159 (67.9)	Yes= 3 (33.3) No= 3 (33.3)
Mental Health Experience	A friend or family with mental health problems= 161 (71.6) Professional experience of mental health= 162 (72.0) Neither= 15 (6.7)	A friend or family with mental health problems= 167 (71.4) Professional experience of mental health= 166 (70.9) Neither= 15 (6.4)	A friend or family with mental health problems= 6 (66.7) Professional experience of mental health= 4 (44.4)

Table 2

Between Group Differences in Stigma Scores

Independent Variable	Schizophrenia[1]	Asthma[2]
Students vs Qualified staff	t(101)= -0.04	t(102)= -0.27
Length of qualification (unqualified, up to 10 years, 11-20 years, >20 years)	F(3,99)= 0.57	F(3,74)= 0.07
Training route (diploma, degree, apprenticeship, traditional training)	F(3,99)= 0.78	F(2,100)= 0.38
Age (up to 27, 28-40, 41+)	F(2,101)= 0.91	F(2,101)= 0.22
Gender	t(102)= -0.81	t(101)= -0.68
Mental health contact (friends/family, professional, neither)	F(2,100)= 1.40	F(2,101)= 0.35
Working in mental health (yes/no)	t(102)= -0.55	t(102)= -0.60
Shift work (yes/no)	t(102)= 0.89	t(102)= -0.29
Managerial responsibility (yes/no)	t(102)= -0.74	t(102)= 0.66

[1] All $p>0.05$
[2] All $p>0.05$

Table 3

Between Group Differences in Compassion Satisfaction/Fatigue

Independent Variable	Compassion Satisfaction	Compassion Fatigue
Students vs Qualified staff	t(222)= 3.28**	t(175.3)= -1.04
Length of qualification	F(3,186)= 3.57*	F(3,182)= 1.89
Training route (diploma, degree, apprenticeship, traditional training)	F(3,219)= 0.97	F(3,214)= 1.56
Age	F(2,222)= 5.45, =*	F(2,217)= 0.69
Gender	t(42.2)= -1.89	t(217)= 0.26
Mental health contact (friends/family, professional, neither)	F(2,221)= 0.64	F(2,216)= 0.83
Working in mental health (yes/no)	t(223)=0.53	T(218)= -1.12
Shift work (yes/no)	t(223)= -0.16	t(218)= 1.95
Managerial responsibility (yes/no)	t(223)= -1.18	t(218)= -0.88

* $p<0.05$

** $p<0.005$

Table 4

Between Group Differences in Attachment Style

Independent Variable	Attachment Anxiety	Attachment avoidance
Students vs Qualified staff	*t*(205)=2.80*	*t*(205)=0.79
Length of qualification	F(3,177)=3.58*	F(3,177)= 0.57
Training route (diploma, degree, apprenticeship, traditional training)	F(3,202)=7.35**	F(3,202)= 0.64
Age	F(2,205)= 11.51**	F(2,205)= 0.44
Gender	*t*(205)= -0.60	*t*(205)=1.76
Mental health contact (friends/family, professional, neither)	F(2,204)= 1.21	F(2,204)=1.09
Working in mental health (yes/no)	*t*(206)= -1.90	*t*(206)= 1.08
Shift work (yes/no)	*t*(206)=3.35**	*t*(206)= 3.36
Managerial responsibility (yes/no)	*t*(206)= -3.24**	*t*(206)= 0.42

*p<0.05

*p<0.005

Table 5

Between Group Differences in EI

Independent Variable	Intrapersonal EI	Interpersonal EI
Students vs Qualified staff	*t*(215)= -1.04	*t*(205)= -0.82
Length of qualification	F(3,182)= 0.53	F(3,177)= 1.05
Training route (diploma, degree, apprenticeship, traditional training)	F(3,212= 2.58	F(3,202)= 1.18
Age	F(2,215)= 1.47	F(2,205)=0.77
Gender	*t*(251)=0.58	*t*(205)=0.57
Mental health contact (friends/family, professional, neither)	F(2,214)=0.24	F(2,204)=0.49
Working in mental health (yes/no)	*t*(216)=1.80	*t*(206)=1.61
Shift work (yes/no)	*t*(216)= -1.28	*t*(206)= -1.30
Managerial responsibility (yes/no)	*t*(216)=2,17*	*t*(206)= -0.46

**p* <0.05

Table 6

Pearson's Correlations

	Stigma	Attachment Avoidance	Attachment Anxiety	Emotional Intelligence (Other)	Emotional Intelligence (Self)	Compassion Satisfaction	Compassion Fatigue	Length of Qualification
Stigma	1	.029	-.009	.080	.011	-.066	.140*	.061
Attachment Avoidance	.029	1	.282**	-.118	-.248**	-.146*	.047	.024
Attachment Anxiety	-.009	.282**	1	-.127	-.258**	-.113	.349**	-.211**
Emotional Intelligence (Other)	.080	-.118	-.127	1	.525**	.189**	-.055	-.007
Emotional Intelligence (Self)	.011	-.248**	-.258**	.525**	1	.255**	-.238**	.095
Compassion Satisfaction	-.066	-.146*	-.113	.189**	.255**	1	-.431**	-.095
Compassion Fatigue	.140*	.047	.349**	-.055	-238**	-.431**	1	-0.56
Length of qualification	.061	.024	-.211**	-.007	.095	-.095	-.056	1

* Correlation is significant at the 0.05 level (2-tailed), ** Correlation is significant at the 0.01 level (2-tailed).

Table 7

Mediation Analyses

Model	IV; DV; M	Effect of IV on M (path *a*)	Effect of M on DV (path *b*)	Direct effect of IV on DV (path *c'*)	Total effect of IV on DV (path *c*)	Indirect effect of IV on DV	Indirect effect of IV on DV 95%[1] CI		Significant indirect effect?[2]
							Lower	Upper	
1	Avoidant attachment; compassion satisfaction; intrapersonal EI	-0.02**	2.26**	-0.07	-0.11*	-0.04	-0.08	-0.01	Yes
2	Anxious attachment; Compassion fatigue; Intrapersonal EI	-0.02, p**	-1.61 p=0.056	0.27***	0.30***	0.03	0.001	0.06	Yes

*p<0.05, **p<0.005, ***p<0.001

[1] Bias-corrected confidence interval with 5000 bootstrap samples

[2] Lower and upper intervals containing zero indicate non-significant effect

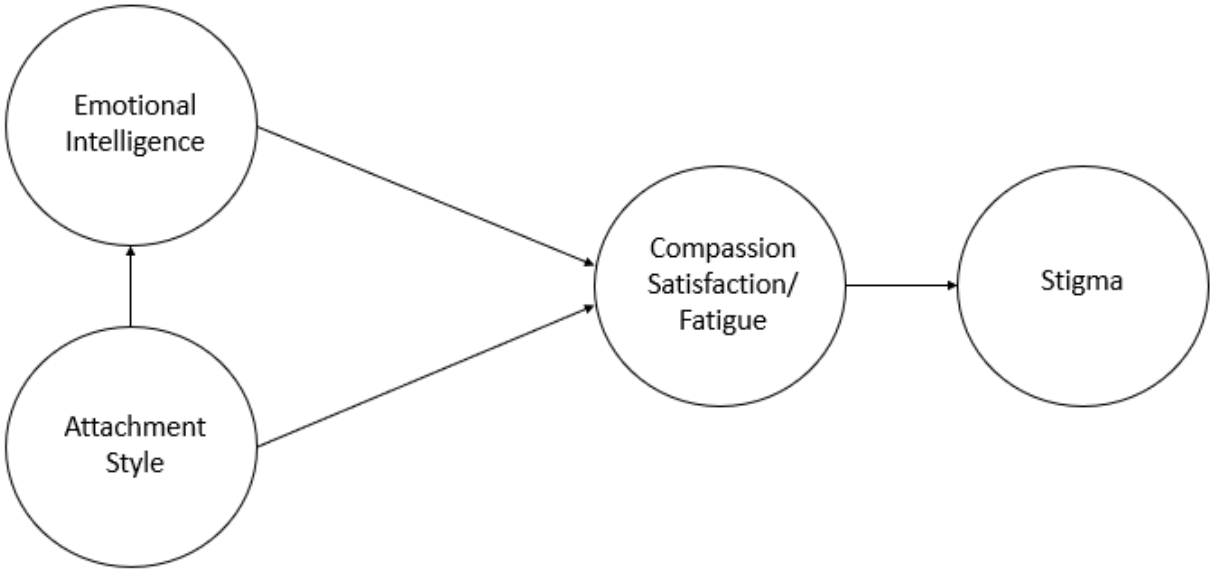
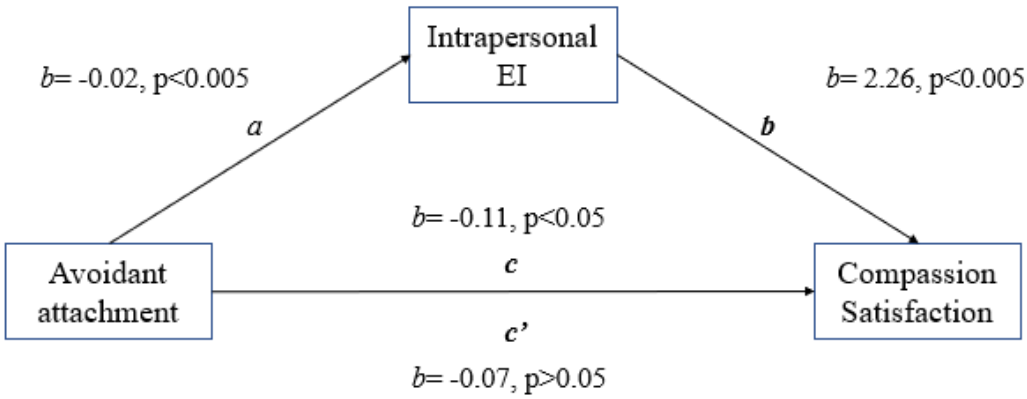


Figure 1. Proposed relationships between attachment style, EI, compassion satisfaction/fatigue and stigma

Model 1



Model 2

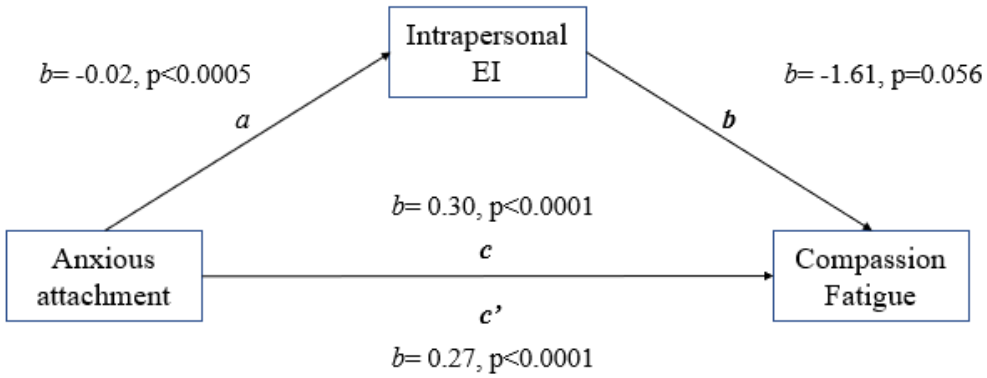


Figure 2. Mediation Models for the Indirect Effects of Attachment Style on Compassion Satisfaction/Fatigue through EI

Appendix A

Recruitment Materials

Health & Medicine | Lancaster University

Dear Student/Staff,

Are you a qualified nurse or nurse in training?

Can you spare 15 minutes to take part in a one-off online survey for a thesis project?

As a thank you for your time, you will have the chance to win one of four £50 Amazon vouchers.

The aim of this research is to better understand nurses' relationships with others, emotions, compassion and views about service-users.

If you would like more information, or to take part, please click on the link below

https://lancasteruni.eu.qualtrics.com/jfe/preview/SV_0CyEqxKPz8Xw0El?Q_SurveyVersionID=current&Q_CHL=preview

The research has been approved by the Health Research Authority and Lancaster University Faculty of Health and Medicine Research Ethics Committee and your organisation has given permission for this email to be sent.

If you have any questions about the study, please do not hesitate to contact me:
s.valavanis@lancaster.ac.uk

Sophie Valavanis
Trainee Clinical Psychologist
Lancaster University

Health & Medicine | Lancaster University

Are you a qualified nurse or nurse in training? We are interested in your views.

Can you spare 15 minutes to complete a one-off online survey about compassion, views about service-users, and relationships with others and emotions?

As a thank you for your time, you can enter a prize draw to win one of four £50 Amazon vouchers

For more information and to access the survey:

https://lancasteruni.eu.qualtrics.com/jfe/preview/SV_0CyEqxKPz8Xw0El?Q_SurveyVersionID=current&Q_CHL=preview

Appendix B

Study Materials

Health & Medicine | Lancaster University

Participant Information Sheet

My name is Sophie Valavanis and I am a trainee clinical psychologist on the Doctorate in Clinical Psychology programme at Lancaster University. This research forms part of my thesis.

What is the study about?

We would like to find out more about nurses' relationships with others, emotions, compassion and views about service-users.

Who can participate in this study?

We are inviting all student nurses and nurses who are currently practising and can read and write English.

Do I have to take part?

No, taking part is completely voluntary and you may withdraw at any point before submitting your answers. Your decision will not affect your relationship with the organisation you are affiliated with.

What will I be asked to do?

Taking part will involve completing an online survey, which will include a series of questions about yourself such as your age, gender and job title. You will then complete some brief questionnaires about compassion, how you respond to emotions and your relationships with others. You will be given a short scenario to read describing a service-user followed by a brief questionnaire about your views about this service-user. This study will take around 15 minutes to complete and once you have submitted your responses you will not need to do anything else.

Are there any benefits or risks to taking part?

You can choose to enter into a prize draw to win one of four £50 Amazon vouchers. There are no risks anticipated with taking part in this study.

Will my answers be identifiable?

This is an anonymous survey and your responses cannot be linked back to you. All responses will be stored securely and will only be accessible by the research team.

How will my information be stored?

The anonymous answers that you give on the survey will be stored electronically on the secure computer drive at Lancaster University. In line with policy and guidance from Lancaster University, your anonymous responses will be stored for 10 years on the secure storage system, following which, they will be destroyed.

If you choose to be entered into a prize draw and provide your email address at the end of the survey, this will also be stored on the secure drive at Lancaster University, but in a separate folder to survey responses. Your email address will not be linked to your responses on the anonymous survey and only the research team will have access to it. The prize draw will occur following completion of the survey and will be destroyed once the prize-winners have been contacted.

Health & Medicine | Lancaster University

Lancaster University will be the data controller for any personal information collected as part of this study.

Under the GDPR you have certain rights when personal data is collected about you. You have the right to access any personal data held about you, to object to the processing of your personal information, to rectify personal data if it is inaccurate, the right to have data about you erased and, depending on the circumstances, the right to data portability. Please be aware that many of these rights are not absolute and only apply in certain circumstances. If you would like to know more about your rights in relation to your personal data, please speak to the researcher on your particular study.

For further information about how Lancaster University processes personal data for research purposes and your data rights please visit our webpage: www.lancaster.ac.uk/research/data-protection

What will happen to the results?

The results will be summarised and reported in my thesis and may be published in an academic journal. If you wish, you will be able to receive a summary of the findings. A summary may also be shared with the organisations involved with the research.

Who has reviewed the project?

This project has been reviewed and approved by the Faculty of Health and Medicine Research Ethics Committee at Lancaster University and the Health Research Authority.

Where can I get further information about the project if I need it?

If you have any questions, please contact the main researcher: Sophie Valavanis, Clinical Psychology, Division of Health Research, Lancaster University, Lancaster, LA1 4YG. Email: s.valavanis@lancaster.ac.uk

You can also contact one of the supervisors of the project: Dr Ian Fletcher, Clinical Psychology, Division of Health Research, Lancaster University, Lancaster, LA1 4YG. Email: I.j.fletcher@lancaster.ac.uk

Complaints

If you wish to make a complaint or raise concerns about any aspect of this project and do not want to speak to the researcher, you can contact: Professor Bill Sellwood, Clinical Psychology, Division of Health Research, Lancaster University, Lancaster, LA1 4YG. Tel: +44 (0)1524 592754 Email: b.sellwood@lancaster.ac.uk

If you wish to speak to someone outside of the Clinical Psychology Doctorate Programme, you may also contact: Professor Roger Pickup, Associate Dean for Research, Faculty of Health and Medicine (Division of Biomedical and Life Sciences), Lancaster University, Lancaster, LA1 4YG. Tel: +44 (0)1524 593746. Email: r.pickup@lancaster.ac.uk

Should you feel distressed because of taking part in this study, please contact your GP.

Thank you for taking the time to read this information sheet

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The next page will take you to the survey. You will be asked 13, mostly multiple-choice questions about yourself, your training, and your employment. You will then be taken to three short questionnaires about compassion, emotions, and your relationships with others. You will then be shown a brief description of a service-user, followed by seven multiple choice questions about your attitudes towards this service user. It is likely that this survey will take approximately 15 minutes in total.

By proceeding to the survey, you confirm that:

- You have read the information sheet and understand what is expected of you within this study
- You understand that any responses/information you give will remain anonymous
- Your participation is voluntary
- By submitting your answers, you consent to them being used in the research and it will not be possible to withdraw from the study after submission.
- You consent for the information you provide to be discussed with the research team
- You consent to Lancaster University keeping the anonymised data for a period of 10 years after the study has finished
- By clicking NEXT, you consent to taking part in the study.

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What is your current job title?

_____

How long have you been a nurse?

- ○ Not yet qualified (please write what year of training you are in, in the space provided)

- ○ Less than one year (please write how many months in the space provided)

- ○ More than one year (please write how many years in the space provided)

Is/was your nurse training a diploma or degree?

- ○ Diploma
- ○ Degree
- ○ Other (please answer in the space provided)

What is your nursing qualification (e.g. Registered General Nurse, Registered Mental Health Nurse etc.)?

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Please indicate which of the following specialties you work in. Please tick all that apply

- ☐ Physical Health
- ☐ Mental Health
- ☐ Learning disability
- ☐ Forensic
- ☐ Substance misuse
- ☐ Other (please write what specialty you work in, in the space provided

Please indicate which client group you work with. Please tick all that apply

- ☐ Children
- ☐ Adult
- ☐ Older adult
- ☐ Other (please write which client group you work with, in the space provided

Please indicate what setting you work in. Please tick all that apply

- ☐ Inpatient
- ☐ Outpatient
- ☐ Community
- ☐ Other (please write which setting you work in, in the space provided)

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Do you work shift patterns?

- ○ Yes
- ○ No

Do you have managerial responsibility for other staff?

- ○ Yes
- ○ No

What sector do you work in? Please tick all that apply

- ☐ NHS
- ☐ Private
- ☐ Charitable
- ☐ Third-Sector
- ☐ Other (please write what sector you work in, in the space provided ____)

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What is your gender?

- ○ Male
- ○ Female
- ○ Other

What is your age?

What country do you live in?

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Do you have experience of any of the following? Please choose all that apply

- A friend or family member with a mental health problem
- Professional contact with someone with a mental health problem
- None of the above

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ProQOL (Stamm, 2009)

When you nurse people you have direct contact with their lives. As you may have found, your compassion for those you nurse can affect you in positive and negative ways. Below are some questions about your experiences, both positive and negative, as a nurse.

Consider each of the following questions about you and your current work situation.

Select the answer that honestly reflects how frequently you experienced these things in the last 30 days.

	Never	Rarely	Sometimes	Often	Very Often
I am happy.	○	○	○	○	○
I am preoccupied with more than one person I nurse.	○	○	○	○	○
I get satisfaction from being able to nurse people.	○	○	○	○	○
I feel connected to others.	○	○	○	○	○
I jump or am startled by unexpected sounds.	○	○	○	○	○
I feel invigorated after working with those I nurse.	○	○	○	○	○
I find it difficult to separate my personal life from my life as a nurse.	○	○	○	○	○
I am not as productive at work because I am losing sleep over traumatic experiences of a person I nurse.	○	○	○	○	○
I think that I might have been affected by the traumatic stress of those I nurse.	○	○	○	○	○

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	Never	Rarely	Sometimes	Often	Very Often
I feel trapped by my job as a nurse.	○	○	○	○	○
Because of my nursing, I have felt "on edge" about various things.	○	○	○	○	○
I like my work as a nurse.	○	○	○	○	○
I feel depressed because of the traumatic experiences of the people I nurse.	○	○	○	○	○
I feel as though I am experiencing the trauma of someone I have nursed	○	○	○	○	○
I have beliefs that sustain me.	○	○	○	○	○
I am pleased with how I am able to keep up with nursing techniques and protocols.	○	○	○	○	○
I am the person I always wanted to be.	○	○	○	○	○
My work makes me feel satisfied.	○	○	○	○	○
I feel worn out because of my work as a nurse.	○	○	○	○	○
I have happy thoughts and feelings about those I nurse and how I could help them.	○	○	○	○	○
	○	○	○	○	○

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	Never	Rarely	Sometimes	Often	Very Often
I feel overwhelmed because my caseload seems endless.					
I believe I can make a difference through my work.					
I avoid certain activities or situations because they remind me of frightening experiences of the people I nurse.					
I am proud of what I can do to help.					
As a result of my nursing, I have intrusive, frightening thoughts.					
I feel "bogged down" by the system.					
I have thoughts that I am a "success" as a nurse.					
I can't recall important parts of my work with trauma victims.					
I am a very caring person.					
I am happy that I chose to do this work.					

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S-PEC (Mikolajczak, Brasseur, & Fantini-Hauwel, 2014)

The questions below are designed to provide a better understanding of how you deal with your emotions in daily life. Please answer each question spontaneously, taking into account the way you would normally respond. There are no right or wrong answers as we are all different on this level.

	Does not describe me at all / I never respond like this				Describes me very well/ I often experience this response
	1	2	3	4	5
I do not always understand why I respond in the way I do.	○	○	○	○	○
When I feel good, I can easily tell whether it is due to being proud of myself, happy or relaxed.	○	○	○	○	○
I am good at describing my feelings.	○	○	○	○	○
I never base my personal life choices on my emotions.	○	○	○	○	○
When I am feeling low, I easily make a link between my feelings and a situation that affected me.	○	○	○	○	○
I can easily get what I want from others.	○	○	○	○	○
Most of the time, I understand why people feel the way they do.	○	○	○	○	○

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	Does not describe me at all / I never respond like this				Describes me very well/ I often experience this response
	1	2	3	4	5
When I am touched by something, I immediately know what I feel.	○	○	○	○	○
I do not understand why the people around me respond the way they do.	○	○	○	○	○
When I see someone who is stressed or anxious, I can easily calm them down.	○	○	○	○	○
Other people tend to confide in me about personal issues.	○	○	○	○	○
My emotions inform me about changes I should make in my life.	○	○	○	○	○
I find it difficult to explain my feelings to others even if I want to.	○	○	○	○	○
If someone came to me in tears, I would not know what to do.	○	○	○	○	○
I find it difficult to listen to people who are complaining.	○	○	○	○	○
I am good at sensing what others are feeling.	○	○	○	○	○

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	Does not describe me at all / I never respond like this				Describes me very well/ I often experience this response
	1	2	3	4	5
I find it difficult to handle my emotions.	○	○	○	○	○
If I wanted, I could easily make someone feel uneasy.	○	○	○	○	○
When I am angry, I find it easy to calm myself down.	○	○	○	○	○
Quite often I am not aware of people's emotional state.	○	○	○	○	○

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ECR-SF (Wei, Russell, Mallinckrodt & Vogel, 2007)

The statements below concern how you feel in emotionally intimate relationships.

We are interested in how you generally experience relationships, not just in what is happening in a current relationship.

Using the 1 to 7 scale, after each statement write a number to indicate how much you agree or disagree with the statement.

	Strongly disagree 1	2	3	neutral/mixed 4	5	6	Strongly agree 7
It helps to turn to my romantic partner in times of need	○	○	○	○	○	○	○
I need a lot of reassurance that I am loved by my partner	○	○	○	○	○	○	○
I want to get close to my partner, but I keep pulling back	○	○	○	○	○	○	○
I find that my partner(s) don't want to get as close as I would like	○	○	○	○	○	○	○
I turn to my partner for many things, including comfort and reassurance	○	○	○	○	○	○	○
My desire to be very close sometimes scares people away	○	○	○	○	○	○	○
I try to avoid getting too close to my partner	○	○	○	○	○	○	○

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	Strongly disagree 1	2	3	neutral/mixed 4	5	6	Strongly agree 7
I do not often worry about being abandoned	○	○	○	○	○	○	○
I usually discuss my problems and concerns with my partner	○	○	○	○	○	○	○
I get frustrated if romantic partners are not available when I need them	○	○	○	○	○	○	○
I am nervous when partners get too close to me	○	○	○	○	○	○	○
I worry that romantic partners won't care about me as much as I care about them	○	○	○	○	○	○	○

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Vignette adapted from Link, Cullen, Frank, & Wozniak (1987)

Here is a description of a 27-year-old man, called Jim who is visiting his GP for a check-up. About two years ago, Jim was hospitalised because of problems he was having at the time, associated with his diagnosis of schizophrenia. He has now been discharged from hospital and appears to be doing fairly well.

Jim works in a local business. He is well groomed and known for dressing neatly. He gets along well with his colleagues and is on friendly terms with them. He takes coffee and lunch breaks during the day, like everyone else, and returns to work when his colleagues do.

Whilst at work, Jim checks his work carefully and doesn't pass it along until it is correct. This might slow Jim down a little, but he is never criticised for the quality of the work he completes. Jim is interested in meeting and dating young women. He is also looking for a job that gives him more responsibility and pays better than his current one.

Jim occasionally becomes frustrated with all the demands at work and says he feels anxious about them. Once when he felt this way, he got red in the face, went to a back room, and began pacing and complaining to a colleague in an angry tone of voice. Later, he talked to some of the people he works with about the pressures he is sometimes under.

OR

Here is a description of a 27-year-old man, called Jim who is visiting his GP for a check-up. About two years ago, Jim was hospitalised because of problems he was having at the time, associated with his diagnosis of asthma. He has now been discharged from hospital and appears to be doing fairly well.

Jim works in a local business. He is well groomed and known for dressing neatly. He gets along well with his colleagues and is on friendly terms with them. He takes coffee and lunch breaks during the day, like everyone else, and returns to work when his colleagues do.

Whilst at work, Jim checks his work carefully and doesn't pass it along until it is correct. This might slow Jim down a little, but he is never criticised for the quality of the work he completes. Jim is interested in meeting and dating young women. He is also looking for a job that gives him more responsibility and pays better than his current one.

Jim occasionally becomes frustrated with all the demands at work and says he feels anxious about them. Once when he felt this way, he got red in the face, went to a back room, and began pacing and complaining to a colleague in an angry tone of voice. Later, he talked to some of the people he works with about the pressures he is sometimes under.

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Link et al. (1987)

Please answer the following questions based on the individual you just read about

	definitely unwilling	probably unwilling	probably willing	definitely willing
How would you feel about renting a room in your home to someone like Jim?	○	○	○	○
How about as a worker on the same job as someone like Jim?	○	○	○	○
How would you feel having someone like Jim as a neighbour?	○	○	○	○
How about as the caretaker of your children for a couple of hours?	○	○	○	○
How about having your children marry someone like Jim?	○	○	○	○
How would you feel about introducing Jim to a young woman you are friendly with?	○	○	○	○
How would you feel about recommending someone like Jim for a job working for a friend of yours?	○	○	○	○

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Thank you for completing this survey.

Please be aware that you were randomly allocated to one of two vignettes, either describing a male with a diagnosis of schizophrenia or of asthma. This was because we were interested to see whether participants' responses to the questions about the vignettes varied depending on the diagnosis. You were not made aware of this beforehand as it was felt that this may influence responses.

Please do not discuss this with colleagues who may not have yet completed the study.

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If you would like to receive a summary of the findings from this study, please email the lead researcher on **s.valavanis@lancaster.ac.uk**

Would you like to be entered into a prize draw to win one of four £50 Amazon vouchers? Your email address will be stored separately from your responses to this questionnaire and will be destroyed as soon as the winners of the prizes have been contacted.

Please be aware that if you provide an email address or make contact the lead researcher, your responses will remain anonymous, your responses will not be linked to your email address and your employer will not be informed that you have taken part in this study.

- ○ Yes
- ○ No

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Please enter your email address below

Doctorate in Clinical Psychology | Lancaster University

Section Three: Critical Appraisal

Sophie Valavanis

Trainee Clinical Psychologist,

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Overview

This thesis has included a systematic review of the literature regarding the relationship between emotional intelligence and burnout in nursing staff, followed by a research paper regarding the relationships between individual differences in emotional intelligence, compassion satisfaction/fatigue, attachment style and mental health stigma in nurses. Both papers made recommendations for future research and clinical and service implications accordingly. This paper will comprise of a number of sections. First, reflections will be made on the methodological orientation of the studies in this thesis and how this relates to my personal epistemological stance. Next, recommendations from the previous papers will be critically appraised, with a focus on the role of wider systemic and political factors. Finally, the role of clinical psychologists in relation to this will be explored, along with the relevance to my professional identity.

Methodological Orientation and Learning from the Studies

The first two sections in this thesis adopt a positive epistemological stance, that is, they are quantitative in nature and assume that there is an objective 'truth'. The review paper assumes that the relationship between EI and burnout in nursing staff can be discovered through quantitative research and aims to summarise the findings of research that has measured it. Similarly, the research paper assumes that EI, attachment style, compassion satisfaction/fatigue and stigmatising attitudes are 'things' or concepts which can be measured quantitively. Both papers assume that there is an objective 'truth' of whether or not there are relationships between these variables, and what the nature of those relationships may be. They aim to limit the impact of bias, in order to most accurately discover the truth of these relationships, without undue subject influence from the researcher.

However, this is not entirely in line with my own epistemological stance. I hold more of a critical realist viewpoint, that is that 'truth' exists but that each individual's experience of the truth will be influenced by subjectivity (Robson, 2002). I believe that individuals make meaning of their experiences, and that broader social contexts influence those meanings. I also believe that my role as a trainee clinical psychologist and my experience of having worked in mental health services with nursing staff may have influenced my choice of research question, and interpretations of the findings. I could have chosen to undertake qualitative analyses that may have been more in-line with this epistemological stance. However, it is my experience that in general, more value appears to be given to quantitative research when the findings are used as evidence for the need for training and interventions. This may be because the findings are considered to be more 'objective', 'evidence-based' and generalisable. Given the damaging impact of mental health stigma, compassion fatigue and burnout (reported both quantitatively and qualitatively), I was passionate about ensuring that any findings from this research could be used to improve the well-being of nursing staff and service-users.

Given their quantitative methodology, a number of the papers included in the literature review discussed the meaning of burnout and EI. As discussed in the review paper, there were a number of definitions of burnout, with various factors considered to be necessary, ranging from one, two and three factor models, among others. Even more contentious, was the concept of EI. A large number of different measures were used in the papers, varyingly conceptualising EI as a trait, an ability or a mixture of the two. There also appeared to be some contention about whether measures of EI should, and do, assess people's ability to recognise and respond appropriately to emotions, their knowledge of how they should respond, or how they typically do respond (Mikolajczak et al., 2014). Furthermore, the existence of both self-report and rater-scored measures, highlights that there may be a

difference between how people rate their own trait and ability EI, compared to how others may rate it.

Reviewing the literature highlighted similar contentions regarding the definitions and measurement of the other variables included in these papers; attachment style, mental health stigma, and compassion satisfaction/fatigue. This emphasised for me that although positive, quantitative research aims to uncover the 'truth' about the relationships between variables, and more weight is often given to their findings, the findings should still be interpreted with caution.

Critical Appraisal of Recommendations

The first two papers in this thesis highlighted relationships between psychological factors and burnout/compassion fatigue in nursing staff, therefore making recommendations to implement emotional intelligence training. However, there is a risk that by highlighting the links between burnout/compassion fatigue and psychological factors such as emotional intelligence or attachment style, that nurses who experience burnout or compassion fatigue may blame themselves or feel blamed/stigmatised by others. It is possible that the findings and recommendations may result in those who experience burnout or compassion fatigue being considered by themselves, or others, as defunct or lacking in some way. There is the risk that this may locate responsibility for reducing burnout and compassion fatigue being solely the individual, as opposed to the wider system.

However, it is crucial to also acknowledge the impact of external factors related to the organisation and the wider context of healthcare delivery. Following the economic crisis in 2008, many European countries adopted 'austerity' measures (Buchan, O'May, & Dussault, 2013), which have affected public sector employment and reductions in staffing (Vaughan-Whitehead, 2012). In the United Kingdom (UK) alone, there are over 40,000 vacancies for nursing staff (Ely, 2009a). According to data analysed by the Labour Party and verified by

the House of Commons, over 200,000 nurses have left the NHS since 2010/2011, alongside a 55% increase in voluntary resignations from the NHS. There has been an increase of 169% citing poor work-life balance for the reason of voluntary resignation (Ashworth, 2019). Similarly, in 2018, the Nursing and Midwifery Council (NMC) surveyed nurses who had left its register and almost a third stated that pressures leading to stress and/or poor mental health was a reason for them leaving the profession (Jones-Berry, 2019). Furthermore, the UK has lost almost 5,000 nurses from the EU over the past two years and 51% of the EU nurses in the NMC's survey said that Brexit had encouraged them to seek work outside of the UK (Jones-Berry, 2019). Furthermore, from the 1st August 2017, nursing students in England no longer received National Health Service (NHS) bursaries (Department of Health and Social Care, 2017), and the number of applicants to nursing this year is over 14,000 fewer than it was in 2016 (Ely, 2019b).

Research suggests that the risk of burnout increases with work-stress, which is likely to increase with the reduced staffing and increased financial stressors currently experienced by nursing staff. Large-scale cross-sectional analyses of over 10,000 nursed indicates that after adjusting for nurse and hospital characteristics, each additional patient per nurse was associated with a 23% increase in the odds of burnout and a 15% increase in the odds of job dissatisfaction. Furthermore, each additional patient was associated with a 7% increase in the likelihood of patient death within 30 days of admission (Aiken, Clarke, Sloane, Sochalski, & Silber, 2002).

This systematic literature review suggested that there are correlations between emotional intelligence and burnout and many of the papers identified that emotional intelligence significantly and negatively affected burnout. Some also identified that emotional intelligence reduces job stress (Hong & Lee, 2016). However, there is a paucity of research investigating the impact of stress on emotional intelligence. There is, however, a small body

of research suggesting that while emotional intelligence buffers the impact of stress, stress may also influence emotional intelligence. In an analysis of the relationships between stress, emotional intelligence, cognitive intelligence, and cytokines, Jung et al. (2019) suggested that high levels of stress may reduce emotional awareness and expression, emotional thinking, and emotional regulation. Conversely, they posited that high levels of emotional intelligence may decrease stress because those with high emotional intelligence may use proactive and effective coping strategies to deal with stress.

Perhaps then, high levels of job stress make it more challenging for nurses to access the emotional intelligence skills and abilities that they do have, which may otherwise protect them from burnout and compassion fatigue. If this is the case, then although the findings from this thesis suggest that training in emotional intelligence may be beneficial, perhaps it would be equally, if not more beneficial to reduce the stressors that nursing staff are under. It is also of note that numerous nurses have told the Royal College of Nursing that study leave is often cancelled due to staffing pressures, and cuts to training budgets have resulted in a significant reduction in training availability (Bungeroth, Fennell, & Aiken, 2018), suggesting that there may not be sufficient funding to make this training available or for nurses to attend.

Other findings from the empirical paper highlighted that attachment style, namely anxious attachment style is correlated with compassion fatigue. It is worth considering again, what role job stress may contribute to this. Bowlby (1969) theorised that infants have an attachment system, which motivates them to seek close emotional and physical proximity to caregivers, in order to increase their chances of survival. The reactions of caregivers in response to these attachment behaviours result in the development of internal working models of the self and others; that is perceptions of how worthy the self is of getting one's needs for proximity and safety responded to, and how responsive others are to them. Bowlby (1979) posited that our internal working models of the self and others continue to influence our

thoughts, feelings and behaviour throughout our lives, the effects of which are particularly notable in response to stressful or threatening events (Mikulincer & Shaver, 2003).

According to Bowlby (1982), along with a drive to seek proximity at times of threat, humans are also born with a capacity to provide protection and support to others who are in need. Shaver et al. (2010) posited that if a person's caregiving system develops under ideal circumstances, then compassion, kindness and empathy will occur in response to others' distress. However, if it develops under less favourable circumstances, then responses will be less empathic and compassionate. According to Collins et al. (2006), the caregiving system is likely to be activated in response to another's proximity-seeking during times of threat. It has been argued that illness stimulates attachment behaviour because it is anxiety provoking and results in some level of vulnerability. This can result in service-users seeking proximity to both general medical and mental health-care professionals (Adshead, 1998), particularly those who are the primary caregivers; often nursing staff. It is therefore likely that caring for ill or distressed service-users will activate nurses caregiving systems.

Bowlby (1982) posited that activation of the attachment system can interfere with the caregiving system, as the caregiver's own safety can become their priority. This can result in decreased sensitivity and responsiveness to the needs of the person seeking proximity to them. It is only when this sense of threat is reduced that the caregiving system can become reactivated (Mikulincer & Shaver, 2012). It is therefore possible that the organisational stressors faced by nurses could trigger their own attachment system and interfere with their caregiving system. Therefore, although attachment style appears to be correlated with compassion fatigue, it may be that by reducing levels of stress that nurses experience, their attachment styles may not be activated as readily.

This theoretical approach highlights the question of how best to reduce levels of nursing stress. One argument is to increase resilience and coping strategies in staff. Clinical psychologists could have a role in this approach; offering clinical supervision, reflective practice and training in emotional intelligence, coping skills and resilience (British Psychological Society, 2017). However, this returns us to the original supposition that it is the individual nurse who is lacking in some regard and requires additional support or training to be able to tolerate job stressors. Conversely, it can be argued that the responsibility to reduce job stress should lie with the organisation and wider system.

Role of the Clinical Psychologist

Dahlgren and Whitehead (1991; 2007) posited that there were numerous factors that threaten, promote and protect health. They grouped these influences into categories in order to highlight distinct levels for targeted intervention. Their model suggests that the main determinants of health can be considered as a series of layers. Level 1 regards the overarching socio-economic, cultural and environmental context in which people live. Level 2 reflects the material and social conditions in which people live and work. Following this is level 3 which incorporates the social and community networks that one lives in, and next in level 4 there is the impact of individual lifestyle factors. Finally, there are the fixed individual differences between people, such as age, gender and genetic make-up (see Figure 1).

[Insert Figure 1 here]

Dahlgren and Whitehead (1991; 2007) argue that the first four layers can be translated into levels for interventions to improve health. Interventions focussing on level 1 should aim to elicit long term structural changes through political action, such as economic and environmental strategy change. Level 2 interventions should aim to improve living and working conditions through business strategies within multiple sectors. Level 3 interventions

should aim to strengthen social and community networks and level 4 interventions should aim to influence individuals' lifestyles and attitudes.

It is unclear whether working with nursing staff with the aim of increasing their emotional intelligence would be a level 2 or a level 4 intervention. This is in part dependent on the primary aim of the intervention and similarly, who the client is perceived to be. If the client is the nurse, and the aim is to improve their psychological wellbeing by reducing their experiences of compassion fatigue and/or burnout through emotional intelligence training, then the intervention is a level 4 approach. Conversely, if the clients are perceived to be the service-users who nurses work with, and the aim of the intervention is to improve their outcomes, then the intervention is a level 2 approach, as it aims to improve health by improving health services.

Traditionally, clinical psychology has focused primarily on level 4 interventions; that is, working with individuals to alleviate their distress, with a focus on emotions, cognitions and behaviour. However, there is a growing movement of psychologists who believe that their role goes beyond providing individual support to service-users or working with staff teams, and that they also have a role in applying psychology to policy and political action. There has been increasing interest and debate in clinical psychology about the potential contribution of psychologists to macro-level (level 1) interventions, in response to the impact of austerity on psychological wellbeing and physical health. One such example is the Psychologists for Social Change network who encourage psychologist to engage in public and policy debates. They argue that it is the public and professional duty of psychologists to speak out against austerity policies based on the evidence that social and political context are central to wellbeing (Kinderman, 2013; Psychologists for Social Change, 2015). This could involve taking action to highlight the impact of austerity through undertaking research,

lobbying, protesting and engaging in debates, with the aim of improving the funding for NHS services and nurse training.

This is in line with the findings of the World Health Organization (2009) who posited that "mental distress among communities need to be understood less in terms of individual pathology and more as a response to relative deprivation and social injustice, which erode the emotional, spiritual and intellectual resources essential to psychological wellbeing" (pp. III) and

> "While there is much that can be done to improve mental health, doing so will depend less on specific interventions, valuable as these may be, and more on a policy sea change, in which policy makers across all sectors think in terms of *'mental health impact'*." (pp. IV).

They argue that it is necessary to think more critically about the contribution of both individual skills on mental wellbeing, and consider as well the impact of personal living and employment circumstances. Although this thesis has aimed to consider the impact of nurses' psychological wellbeing on service-users, it should be acknowledged that wider, social and economic issues may also impact on nurses' wellbeing. As such, interventions aimed at ameliorating nurse burnout and compassion fatigue should focus not only on individual factors, such as improving emotional intelligence, but also on a broader, political field.

However, it must also be acknowledged that there is an argument that social change is not the role of the psychologist, and that their focus should be 'ameliorative', as opposed 'transformative'; in this case, that is focusing on supporting those who are in distress, as opposed to changing the systems that may lead to this distress (Fox, Prilleltensky, & Austin, 2009). However, this is not an opinion I personally hold.

Impact on my Professional Identity

I undertook this research with the aim of gaining an increased understanding of nurses' experiences. I began my career as a healthcare assistant in an acute mental health ward, and witnessed a split between those nursing staff who were passionate about improving the psychological wellbeing of the service-users who they were working with, and those who seemed to be critical and dismissive of their experiences. This observation has been replicated in many of the services that I have worked in, in various settings, with different client groups, and from different healthcare professional groups. I was unsure if this difference was because of some individual difference in the way that professionals thought about others more generally, or if this was something that had changed since they first entered the profession. I wanted to understand how these attitudes may impact on service-users, and what contributed to these attitudes.

Since beginning my thesis, I have followed nurses on Twitter and read nursing journals and editorials, and I have been struck by the reporting of vicarious trauma from experiencing the distress of their patients. I have also read many stories of student nurses struggling to cope with the financial pressures of working full-time with no funding to help them to live their daily lives or get to placement. There have been descriptions of feeling under-supported and dehumanised; being referred to as "the student" for the entirety of their placement, and being told to engage in duties that result in them feeling that they are being used as an "extra pair of hands" as opposed to a supernumerary member of the team, who is there to further their learning. This has resulted in me reading numerous accounts of nurses feeling burnt out, worn out, unsupported, unappreciated and concerned for the impact of this on their own wellbeing and patient safety. Furthermore, I have various accounts of nurses and nursing students regretting their decision to enter the profession because of these high demands and considering leaving.

This increased awareness of the experiences of qualified and student nurses has been invaluable and has given me an insight into the struggles that many experience on a daily basis. It has increased my passion to work towards improving the psychological wellbeing of nursing staff, not only with the aim of improving service-user outcomes, but also with the hope of improving the experiences of nursing staff themselves. I hope to do this on a broader service-led level, but also hope to be able to work individually with nursing staff by providing the opportunity for clinical supervision, reflective practice and training opportunities. However, I hope to be able to offer this in a collaborative way, seeking the views of nursing professionals about what they feel may be beneficial.

Conclusions

The papers in this thesis have made recommendations for emotional intelligence training, as the findings suggest that increased emotional intelligence may buffer against the impact of burnout, and also mediate the relationship between anxious attachment style and compassion fatigue, which in turn has been linked to mental health stigma. However, it is also crucial to acknowledge the current social and political context that nurses are forced to work in, and the impact of this on their levels of stress, which has been shown to have a significant impact on levels of burnout, and also may reduce access to emotional intelligence skills and activate unhelpful attachment behaviours. This highlights the need to also improve the working conditions of nurses, and this is a role in which clinical psychologists can be active.

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Figures

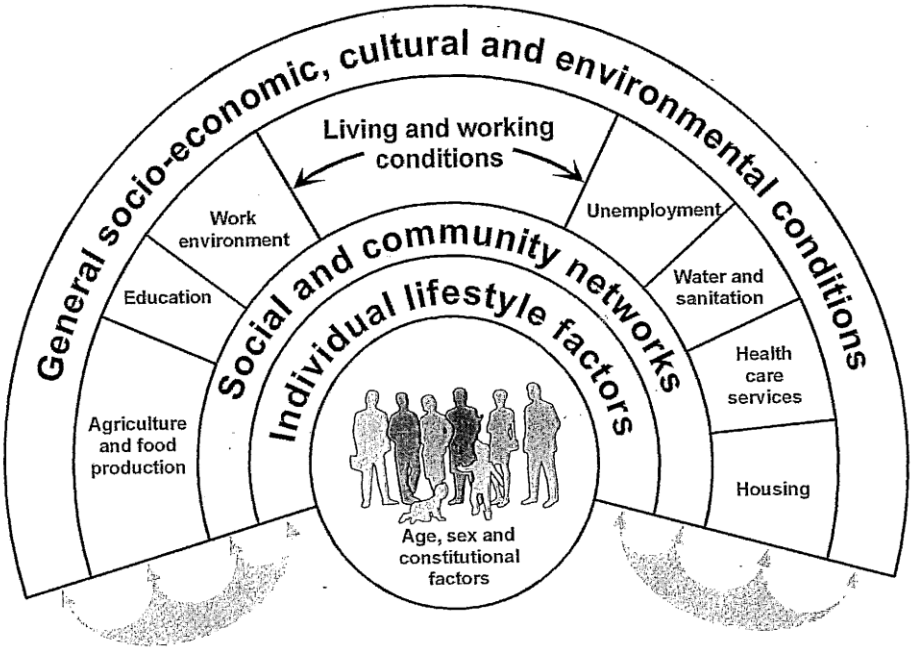

Figure 1: The Main Determinants of Health (Dahlgreen & Whitehead, 1991)

Doctorate in Clinical Psychology | Lancaster University

Section Four: Ethics

Sophie Valavanis

Trainee Clinical Psychologist,

Division of Health Research, Lancaster University

IRAS Application

IRAS Form | Reference: 19/hra/0553 | IRAS Version 5.9.1

Welcome to the Integrated Research Application System

IRAS Project Filter

The integrated dataset required for your project will be created from the answers you give to the following questions. The system will generate only those questions and sections which (a) apply to your study type and (b) are required by the bodies reviewing your study. Please ensure you answer all the questions before proceeding with your applications.

Please complete the questions in order. If you change the response to a question, please select 'Save' and review all the questions as your change may have affected subsequent questions.

Please enter a short title for this project (maximum 70 characters)
Nurses' Views about Service-Users (version 0.3)

1. Is your project research?

(●) Yes ( ) No

2. Select one category from the list below:

( ) Clinical trial of an investigational medicinal product
( ) Clinical investigation or other study of a medical device
( ) Combined trial of an investigational medicinal product and an investigational medical device
( ) Other clinical trial to study a novel intervention or randomised clinical trial to compare interventions in clinical practice
( ) Basic science study involving procedures with human participants
(●) Study administering questionnaires/interviews for quantitative analysis, or using mixed quantitative/qualitative methodology
( ) Study involving qualitative methods only
( ) Study limited to working with human tissue samples (or other human biological samples) and data (specific project only)
( ) Study limited to working with data (specific project only)
( ) Research tissue bank
( ) Research database

If your work does not fit any of these categories, select the option below:

( ) Other study

2a. Please answer the following question(s):

a) Does the study involve the use of any ionising radiation?	( ) Yes	(●) No
b) Will you be taking new human tissue samples (or other human biological samples)?	( ) Yes	(●) No
c) Will you be using existing human tissue samples (or other human biological samples)?	( ) Yes	(●) No

3. In which countries of the UK will the research sites be located? *(Tick all that apply)*

- [x] England
- [ ] Scotland

- [ ] Wales
- [ ] Northern Ireland

3a. In which country of the UK will the lead NHS R&D office be located:

- (•) England
- ( ) Scotland
- ( ) Wales
- ( ) Northern Ireland
- ( ) This study does not involve the NHS

4. Which applications do you require?

IMPORTANT: If your project is taking place in the NHS and is led from England select 'IRAS Form'. If your project is led from Northern Ireland, Scotland or Wales select 'NHS/HSC Research and Development Offices' and/or relevant Research Ethics Committee applications, as appropriate.

- [x] IRAS Form
- [ ] Confidentiality Advisory Group (CAG)
- [ ] Her Majesty's Prison and Probation Service (HMPPS)

For NHS/HSC R&D Offices in Northern Ireland, Scotland and Wales the CI must create NHS/HSC Site Specific Information forms, for each site, in addition to the study wide forms, and transfer them to the PIs or local collaborators.

For participating NHS organisations in England different arrangements apply for the provision of site specific information. Refer to IRAS Help for more information.

Most research projects require review by a REC within the UK Health Departments' Research Ethics Service. Is your study exempt from REC review?

(•) Yes ( ) No

4b. Please confirm the reason(s) why the project does not require review by a REC within the UK Health Departments Research Ethics Service:

- ☐ Projects limited to the use of samples/data samples provided by a Research Tissue Bank (RTB) with generic ethical approval from a REC, in accordance with the conditions of approval.
- ☐ Projects limited to the use of data provided by a Research Database with generic ethical approval from a REC, in accordance with the conditions of approval.
- ☐ Research limited to use of previously collected, non-identifiable information
- ☐ Research limited to use of previously collected, non-identifiable tissue samples within terms of donor consent
- ☐ Research limited to use of acellular material
- ☐ Research limited to use of the premises or facilities of care organisations (no involvement of patients/service users as participants)
- ☑ Research limited to involvement of staff as participants (no involvement of patients/service users as participants)

5. Will any research sites in this study be NHS organisations?

◉ Yes ○ No

5a. Are all the research costs and infrastructure costs (funding for the support and facilities needed to carry out research e.g. NHS Support costs) for this study provided by a NIHR Biomedical Research Centre, NIHR Biomedical Research Unit, NIHR Collaboration for Leadership in Health Research and Care (CLAHRC), NIHR Patient Safety Translational Research Centre or a Diagnostic Evidence Co-operative in all study sites?

Please see information button for further details.

○ Yes ◉ No

Please see information button for further details.

5b. Do you wish to make an application for the study to be considered for NIHR Clinical Research Network (CRN) Support and inclusion in the NIHR Clinical Research Network Portfolio?

Please see information button for further details.

○ Yes ◉ No

The NIHR Clinical Research Network provides researchers with the practical support they need to make clinical studies happen in the NHS e.g. by providing access to the people and facilities needed to carry out research "on the ground".

If you select yes to this question, you must complete a NIHR Clinical Research Network (CRN) Portfolio Application Form (PAF) immediately after completing this project filter question and before submitting other applications. Failing to complete the PAF ahead of other applications e.g. HRA Approval, may mean that you will be unable to access NIHR CRN Support for your study.

6. Do you plan to include any participants who are children?

○ Yes ◉ No

7. Do you plan at any stage of the project to undertake intrusive research involving adults lacking capacity to consent for themselves?

○ Yes ◉ No

Answer Yes if you plan to recruit living participants aged 16 or over who lack capacity, or to retain them in the study following loss of capacity. Intrusive research means any research with the living requiring consent in law. This includes use of identifiable tissue samples or personal information, except where application is being made to the Confidentiality Advisory Group to set aside the common law duty of confidentiality in England and Wales. Please consult the guidance notes for further information on the legal frameworks for research involving adults lacking capacity in the UK.

8. Do you plan to include any participants who are prisoners or young offenders in the custody of HM Prison Service or who are offenders supervised by the probation service in England or Wales?

○ Yes ◉ No

9. Is the study or any part of it being undertaken as an educational project?

◉ Yes ○ No

Please describe briefly the involvement of the student(s):
Lead researcher: creating study materials, recruiting participants, analysing data and writing up research.

9a. Is the project being undertaken in part fulfilment of a PhD or other doctorate?

◉ Yes ○ No

10. Will this research be financially supported by the United States Department of Health and Human Services or any of its divisions, agencies or programs?

○ Yes ◉ No

11. Will identifiable patient data be accessed outside the care team without prior consent at any stage of the project (including identification of potential participants)?

○ Yes ◉ No

IRAS Form | Reference: 19/hra/0553 | IRAS Version 5.9.1

Integrated Research Application System
Application Form for Research administering questionnaires/interviews for quantitative analysis or mixed methodology study

IRAS Form (project information)

Please refer to the E-Submission and Checklist tabs for instructions on submitting this application.

The Chief Investigator should complete this form. Guidance on the questions is available wherever you see this symbol displayed. We recommend reading the guidance first. The complete guidance and a glossary are available by selecting Help.

Please define any terms or acronyms that might not be familar to lay reviewers of the application.

Short title and version number: (maximum 70 characters - this will be inserted as header on all forms)
Nurses' Views about Service-Users (version 0.3)

Please complete these details after you have booked the REC application for review.

REC Name:
non-rec studies England

REC Reference Number:
19/hra/0553

Submission date:
11/12/2018

PART A: Core study information

1. ADMINISTRATIVE DETAILS

A1. Full title of the research:

Individual Differences and Nurses' Attitudes towards Service-Users with a Psychiatric Diagnosis

A2-1. Educational projects

Name and contact details of student(s):

Student 1

Title	Forename/Initials	Surname
Miss	Sophie	Valavanis

Address	Clinical Psychology Division of Health Research
Post Code	LA1 4YG
E-mail	s.valavanis@lancaster.ac.uk
Telephone	01524592970
Fax	

Give details of the educational course or degree for which this research is being undertaken:

Name and level of course/ degree:

Doctorate in Clinical Psychology

Name of educational establishment:
Lancaster University

Name and contact details of academic supervisor(s):

Academic supervisor 1

	Title	Forename/Initials	Surname
	Dr	Ian	Fletcher
Address	Clinical Psychology, Division of Health Research		
	Lancaster University		
	Lancaster		
Post Code	LA1 4YG		
E-mail	I.j.fletcher@lancaster.ac.uk		
Telephone	01524593301		
Fax			

Please state which academic supervisor(s) has responsibility for which student(s):
Please click "Save now" before completing this table. This will ensure that all of the student and academic supervisor details are shown correctly.

Student(s)	**Academic supervisor(s)**
Student 1 Miss Sophie Valavanis	☑ Dr Ian Fletcher

A copy of a current CV for the student and the academic supervisor (maximum 2 pages of A4) must be submitted with the application.

A2-2. Who will act as Chief Investigator for this study?

- ◉ Student
- ○ Academic supervisor
- ○ Other

A3-1. Chief Investigator:

	Title	Forename/Initials	Surname
	Miss	Sophie	Valavanis
Post	Trainee Clinical Psychologist		
Qualifications	BSc Psychology & Philosophy (2:1)		
ORCID ID	0000 0001 7415 0050		
Employer	Lancaster University		
Work Address	Clinical Psychology Division of Health Research		
Post Code	LA1 4YG		
Work E-mail	s.valavanis@lancaster.ac.uk		
* Personal E-mail			

Work Telephone	01524592970
* Personal Telephone/Mobile	
Fax	

** This information is optional. It will not be placed in the public domain or disclosed to any other third party without prior consent.*
A copy of a current CV (maximum 2 pages of A4) for the Chief Investigator must be submitted with the application.

A4. Who is the contact on behalf of the sponsor for all correspondence relating to applications for this project?
This contact will receive copies of all correspondence from REC and HRA/R&D reviewers that is sent to the CI.

	Title	Forename/Initials	Surname
	Ms	Becky	Gordon
Address	Research Support and Systems Manager		
	Research Services		
	Lancaster University		
Post Code	LA1 4YW		
E-mail	ethics@lancaster.ac.uk		
Telephone	01524592981		
Fax			

A5-1. Research reference numbers. *Please give any relevant references for your study:*

Applicant's/organisation's own reference number, e.g. R & D (if available):	N/A
Sponsor's/protocol number:	N/A
Protocol Version:	0.3
Protocol Date:	29/11/2018
Funder's reference number (enter the reference number or state not applicable):	N/A
Project website:	https://lancasteruni.eu.qualtrics.com/jfe/preview/SV_0CyEqxKPz8Xw 0El?Q_S

Additional reference number(s):

Ref.Number Description	Reference Number
N/A	N/A

Registration of research studies is encouraged wherever possible. You may be able to register your study through your NHS organisation or a register run by a medical research charity, or publish your protocol through an open access publisher. If you have registered your study please give details in the "Additional reference number(s)" section.

A5-2. Is this application linked to a previous study or another current application?

○ Yes ◉ No

Please give brief details and reference numbers.

2. OVERVIEW OF THE RESEARCH

To provide all the information required by review bodies and research information systems, we ask a number of specific questions. This section invites you to give an overview using language comprehensible to lay reviewers and members of the public. Please read the guidance notes for advice on this section.

A6-1. Summary of the study. *Please provide a brief summary of the research (maximum 300 words) using language easily understood by lay reviewers and members of the public. Where the research is reviewed by a REC within the UK Health Departments' Research Ethics Service, this summary will be published on the Health Research Authority (HRA) website following the ethical review. Please refer to the question specific guidance for this question.*

Negative attitudes towards people with mental health difficulties have been noted in physical, mental health, and undergraduate nurses. This can impact on self-perception, employment, housing, interpersonal relationships, physical and mental health and the seeking of mental health treatment in people with mental health difficulties.

Burnout has been described as a state of physical, emotional and mental exhaustion caused by long-term involvement in emotionally demanding situations, accompanied by disillusionment and negative feelings. Research suggests that burnout is associated with negative feelings towards patients.

Compassion fatigue is a related construct. In addition to burnout, a person experiencing compassion fatigue can feel a loss of meaning and hope and have reactions associated with Post Traumatic Stress, such as anxiety, difficulty concentrating, being easily startled, irritability, difficulty sleeping, emotional numbing and intrusive images of another's trauma. Long-term effects include reduced empathy, sense of control and safety, hopelessness, overeating and drug or alcohol use. Both burnout and compassion fatigue are involved in 'professional quality of life'.

Bowlby proposed that early childhood experiences influence coping styles and relationships, even into adulthood. These 'attachment styles' are associated with burnout and/or compassion fatigue in health and human service workers. Attachment style has also been linked to how staff relate to clients. In addition, attachment style has also been connected to emotional intelligence (the ability to monitor one's own and other's emotions, and to use this to guide thinking and actions).

As such, nurses and nursing students will be asked to complete a 15 minute online survey, funded by Lancaster University. This study will aim to recruit participants (n>111) from various sites, including the NHS, nursing schools and social media and investigate the relationship between attachment style, professional quality of life and emotional intelligence in relation to nurses' attitudes towards people with a psychiatric diagnosis.

As such, nurses and nursing students will be asked to complete a 15 minute online survey, funded by Lancaster University. This study will aim to recruit participants (n>111) from various sites, including the NHS, nursing schools and social media and investigate the relationship between attachment style, professional quality of life and emotional intelligence in relation to nurses' attitudes towards people with a psychiatric diagnosis.

A6-2. Summary of main issues. *Please summarise the main ethical, legal, or management issues arising from your study and say how you have addressed them.*

Not all studies raise significant issues. Some studies may have straightforward ethical or other issues that can be identified and managed routinely. Others may present significant issues requiring further consideration by a REC, HRA, or other review body (as appropriate to the issue). Studies that present a minimal risk to participants may raise complex organisational or legal issues. You should try to consider all the types of issues that the different reviewers may need to consider.

Purpose and Design

Stigma is widely acknowledged to be experienced by people with mental health difficulties. Stigma has far-reaching effects and has been noted in physical, mental health and undergraduate nurses. This research therefore aims to increase understanding into nurses' attitudes towards people with a psychiatric diagnosis, with the aim of contributing to future research, training and clinical practice.

From the existing literature base, potentially related factors have been identified, and their relationships will be further explored. The study will use quantitative analysis to explore these relationships. A short online survey will be used to reach a larger number of nursing staff and reduce the time and effort burden on participants.

Recruitment

The study will aim to recruit participants from NHS Trusts, private healthcare providers, schools of nursing and potentially appropriate local nursing conferences. Research will also be disseminated via survey interest websites and social media. Undue influence will be avoided by ensuring that recruitment materials (cover emails, posters etc.) are provided for ethical review prior to recruitment.

Consent

Attempts will be made to ensure that participants who choose to participant in this study do so based on adequate information and informed consent. Participant information sheets will provide information about the length of study, an outline of what will be required of them and potential risks and benefits of participating. Even after consenting to begin

the study, they will be able to exit from the study at any point prior to submission of the data, and can take as much time as they require to consider whether they want to participate. No personal data will be collected, unless the participant wishes to submit their email address for submission into a prize draw. Participants will be informed that their participation will be anonymous and their choice of whether to participate or not will not be shared with their employers. Given that participants will be required to be nurses, capacity to consent will be presumed. There will be some aspects of the study that the participants are not fully aware of, such as being randomly allocated to one of two vignettes, as it is presumed that this may influence responses. However a debrief sheet will be included at the end of the study to inform participants of this.

Risks, burdens and benefits

Participants will be able to choose if they would like to be entered into a prize draw for participation. Otherwise, there are no expected benefits of participation. There are minimal risks anticipated with participation in this study. However, there will be questions about professional quality of life and relationship styles. This may require participants to think about and consider things that they find challenging regarding their employment and relationships, and it is possible that this could cause some level of distress in some participants. However, prior to participating in the study, participants will be informed that they will be asked questions about these topics and they can choose not to participate should they envisage that this may cause them distress. They can also choose to discontinue the study at any time. Participants will be advised to contact their GP should they feel distressed following participation.

Confidentiality

In-line with Caldicott Principles, minimum necessary information will be collected (no personal information will be collected unless participants choose to be entered into a prize draw). Because of the nature of the data collected, and with this being an anonymous study, confidentiality will not be broken.

Conflict of interest

There is no conflict of interest from anyone on the research team.

At the end of the study, participants will be given the opportunity to contact the lead researcher for a summary of the findings. However, they will be made aware that if they do so, their participation will not be anonymous (although their responses will remain anonymous). The study will be written up for academic (thesis) assessment, and the aim is to submit it for publication in a peer-reviewed journal.

3. PURPOSE AND DESIGN OF THE RESEARCH

A7. Select the appropriate methodology description for this research. *Please tick all that apply*:

- ☐ Case series/ case note review
- ☐ Case control
- ☐ Cohort observation
- ☐ Controlled trial without randomisation
- ☐ Cross-sectional study
- ☐ Database analysis
- ☐ Epidemiology
- ☐ Feasibility/ pilot study
- ☐ Laboratory study
- ☐ Metanalysis
- ☐ Qualitative research
- ☑ Questionnaire, interview or observation study
- ☐ Randomised controlled trial
- ☐ Other (please specify)

A10. What is the principal research question/objective? *Please put this in language comprehensible to a lay person.*

What are the relationships between nurses' attitudes towards people with a psychiatric diagnosis, their ability to monitor emotions and use them to guide thinking and actions, how they relate to others, and their professional quality of life?

A11. What are the secondary research questions/objectives if applicable? *Please put this in language comprehensible to a lay person.*

N/A

A12. What is the scientific justification for the research? *Please put this in language comprehensible to a lay person.*

Stigma is widely acknowledged to be experienced by people with mental health difficulties. In a survey of service users' and carers' experiences of stigma, 69% of the service user sample, reported having been treated differently, in a negative way, because of their mental health difficulties. Furthermore, 71% reported that stigma and discrimination stopped them from doing the things they wanted to do, and 73% felt that even the fear of stigma and discrimination was enough to stop them from doing the things they wanted to do. Research suggests that mental health stigma has a far-reaching impact, including on self-perception, employment and housing, interpersonal relationships, physical and mental health and the seeking of mental health treatment. Stigmatising attitudes towards people with mental health difficulties have been noted in physical, mental health and undergraduate nurses.

A review of the literature found that stigma towards people with mental heath difficulties is a significant problem within nursing and although it may be uncomfortable, honest reflection and assertive action should be taken to minimise it. The study also reflected that nurses are prone to the same "deep-seated psychological vulnerabilities that lead all human beings to be prone to such
defensive behaviour".

Theory about the development of stigma in health professionals is very limited. It is therefore crucial to develop a better understanding of the factors associated with nursing staff's attitudes to people with a psychiatric diagnosis to try and reduce the prevalence of stigma. It is hoped that doing so may contributing to future research, training and clinical practice. It has been suggested that stigma in health professionals may develop through upbringing or work experiences. As such, it follows to explore factors related to upbringing and work experiences in relation to stigma.

Burnout has been described as a state of physical, emotional and mental exhaustion caused by long-term involvement in emotionally demanding situations, accompanied by disillusionment and negative feelings. Research suggests that burnout is associated with negative feelings towards patients and high levels of burnout along with work related stress and job dissatisfaction are common within the nursing profession.

Compassion fatigue is a related construct. In addition to burnout, a person experiencing compassion fatigue can feel a loss of meaning and hope and have reactions associated with Post Traumatic Stress, such as anxiety, difficulty concentrating, being easily startled, irritability, difficulty sleeping, emotional numbing and intrusive images of another's trauma. Long-term effects include reduced empathy, sense of control and safety, hopelessness, overeating and drug or alcohol use. Both burnout and compassion fatigue are involved in professional quality of life.

Although there is extensive research regarding demographic, situational and organisational antecedents of burnout and compassion fatigue, there is less regarding psychological links. However, research suggests that 'attachment styles' (the way people relate to others in times of threat or distress), may be related. Bowlby proposed that early childhood experiences lead to the development of expectations, beliefs and rules for behaving, thinking and relating to others (internal working models), which can continue to effect coping styles and relationships, even into adulthood. The social psychology perspective of adult attachment, posits that adult attachment can be measured along two dimensions: anxiety and avoidance. People who score low on both dimensions are deemed to have a secure attachment style.

These 'attachment styles' are associated with burnout and/or compassion fatigue in health and human service workers. Secure attachment (when there is a belief that others are reliable and will respond to the need for emotional support) is associated with responsive caregiving and a greater willingness to provide care for others. Conversely, insecure therapist attachment style is associated with poorer alliance in counselling relationships and insensitive and inflexible interactions. Research suggests that higher staff avoidance is associated with poorer staff psychological mindedness, whilst lower anxiety and avoidance is associated with positive therapeutic relationships. It has been argued that people who are highly avoidant or anxious in attachment are more likely to be preoccupied with their own needs, affecting their ability to attend to the needs of others.

Attachment style has also been linked to emotional intelligence (the ability to monitor one's own and other's emotions, and to use this to guide thinking and actions). Medical students and doctors with higher emotional intelligence have been assessed as better at communicating with patients, as were those with lower attachment avoidance scores.

This research aims to explore the 'knowledge gap' in the existing literature, regarding the relationship between nursing staff's attitudes towards people with a psychiatric diagnosis and their attachment styles, emotional intelligence and professional quality of life.

A13. Please summarise your design and methodology. *It should be clear exactly what will happen to the research participant, how many times and in what order. Please complete this section in language comprehensible to the lay person. Do not simply reproduce or refer to the protocol. Further guidance is available in the guidance notes.*

To investigate relationships in multiple correlation, Wilson Van Voorhis and Morgan (2007) suggest using Green's (1991) formula of n>50+8m [m=number of independent variables]. There are seven possible independent variables: attachment (anxiety/avoidance), compassion (satisfaction/fatigue), emotional intelligence (interpersonal/intrapersonal) and vignettes. This results in a suggested sample size of n≥106. However, to detect medium effect sizes in regression, Green (1991) recommends n>104+m, resulting in a minimum sample size of n>111. The larger sample size should be used when using both correlation and regression (Wilson Van Voorhis and Morgan, 2007). As such, the larger figure (n>111) will be used. It is expected that medium effect sizes will be detected given the existing literature in this field. Dabby, Tranulis and Kirmayer's (2015) data suggests a large effect size for both of their sample groups when comparing their Social Distance Scale scores towards a vignette detailing an individual with schizophrenia with one describing an individual with a physical health condition. Cohen's d effect size was calculated using the mean, standard deviation and sample size detailed in this study, suggesting effect sizes of 1.01 and 0.92 (Social Science Statistics, 2018).

Demographic information will be gathered, including questions such as age, gender, length of qualification, hours worked per week and service worked in (mental health, physical health, paediatric, adults etc). Participants will be asked to respond to measures of emotional intelligence, professional quality of life and attachment style in an online survey, followed by being randomly allocated to a vignette describing a service user, before being asked to complete a measure of social distance (stigma) regarding the vignette they just read. The survey will take approximately 15 minutes to complete. No further tasks will be required of them after this.

Vignettes will be employed, which is one of the most common methodological approaches used in the study of the stigma of mental illness (Link et al., 2004). Measures of social distance will then be used to assess stigma which Link et al. (2004) found to be one of the most commonly used measures of stigma in their review of the literature. Participants will be randomly shown one of two vignettes. The first vignette will describe a young man with a diagnosis of schizophrenia. The second will describe the same man but with a diagnosis of asthma instead of schizophrenia. Participants will then be presented with a social distance scale (Link, 1987) asking seven questions about how willing they would be to engage with the person in the vignette in various social scenarios, with responses given on a 4 point Likert scale.

Schizophrenia was chosen in the vignette as people with this diagnosis are arguably most affected by the view that they are dangerous, unpredictable and unreliable (Rossler, 2016). Furthermore, Nordt et al. (2006) found that both mental health professionals and the general public showed less desire for social contact with people with schizophrenia compared to people with either depression or no psychiatric symptoms. Additionally, in a systematic review and meta-analysis, Schomerus, Schwahn, Holzinger, Corrigan, Grable, Carta and Angermeyer (2012) found that acceptance of people with schizophrenia as a co-worker or neighbour have reduced since 1990 and acceptance as a friend or in-law has remained low.

A chronic physical health condition will be used as a comparison vignette. Asthma was chosen following discussions with two nursing staff from different services and the academic supervisor, as it was deemed to be an easily recognisable condition, irrespective of the level or area of training, and one which is not traditionally associated with significant levels of stigma itself. The vignettes were adapted from ones used by Link et al. (1987). The vignettes describe a young man who is functioning well but experiences some mild levels of frustration. The aim of this is to elicit some desire for social distance whilst allowing observation of any effects resulting from the difference in presented diagnosis, should there be any.

It is expected that multiple regression will be conducted following correlation analyses to investigate significant predictors of stigma. Regression analyses will also be conducted to assess any influence of demographic information.

A14-1. In which aspects of the research process have you actively involved, or will you involve, patients, service users, and/or their carers, or members of the public?

- [x] Design of the research
- [ ] Management of the research
- [ ] Undertaking the research
- [ ] Analysis of results
- [x] Dissemination of findings
- [ ] None of the above

Give details of involvement, or if none please justify the absence of involvement.
Two nurses (target population) were consulted regarding the choice of psychiatric and physical health diagnoses. A research nurse was asked to trial the study to provide feedback regarding the demographic questions, relevance, understandability and burden of the study. These staff were asked for opinions about recruitment avenues and will also be asked to support the dissemination of findings to colleagues and will be asked for advice on how and who else to disseminate the study and results to.

4. RISKS AND ETHICAL ISSUES

RESEARCH PARTICIPANTS

A15. What is the sample group or cohort to be studied in this research?

Select all that apply:

- [ ] Blood
- [ ] Cancer
- [ ] Cardiovascular
- [ ] Congenital Disorders
- [ ] Dementias and Neurodegenerative Diseases
- [ ] Diabetes
- [ ] Ear
- [ ] Eye
- [x] Generic Health Relevance
- [ ] Infection
- [ ] Inflammatory and Immune System
- [ ] Injuries and Accidents
- [ ] Mental Health
- [ ] Metabolic and Endocrine
- [ ] Musculoskeletal
- [ ] Neurological
- [ ] Oral and Gastrointestinal
- [ ] Paediatrics
- [ ] Renal and Urogenital
- [ ] Reproductive Health and Childbirth
- [ ] Respiratory
- [ ] Skin
- [ ] Stroke

Gender:	Male and female participants
Lower age limit: 18	Years
Upper age limit: 65	Years

A17-1. Please list the principal inclusion criteria (list the most important, max 5000 characters).

The following inclusion criteria will be applied: 1) nurses who are currently practising nursing or are in training; 2) speak sufficient English to be able to understand and complete the survey.

A17-2. Please list the principal exclusion criteria (list the most important, max 5000 characters).

1) participants over 65; 2) participants who are not currently practising nursing or in training; 3) those who do not speak sufficient English to complete the study

RESEARCH PROCEDURES, RISKS AND BENEFITS

A18. Give details of all non-clinical intervention(s) or procedure(s) that will be received by participants as part of the research protocol. *These include seeking consent, interviews, non-clinical observations and use of questionnaires.*

Please complete the columns for each intervention/procedure as follows:

1. Total number of interventions/procedures to be received by each participant as part of the research protocol.
2. If this intervention/procedure would be routinely given to participants as part of their care outside the research, how many of the total would be routine?
3. Average time taken per intervention/procedure (minutes, hours or days)
4. Details of who will conduct the intervention/procedure, and where it will take place.

Intervention or procedure	1	2	3	4
completing online study	1		15 minutes	self-completion by participant.

A21. How long do you expect each participant to be in the study in total?

12 months

A22. What are the potential risks and burdens for research participants and how will you minimise them?

For all studies, describe any potential adverse effects, pain, discomfort, distress, intrusion, inconvenience or changes to lifestyle. Only describe risks or burdens that could occur as a result of participation in the research. Say what steps would be taken to minimise risks and burdens as far as possible.

Participants will be able to choose if they would like to be entered into a prize draw for participation. Otherwise, there are no expected benefits of participation. There are minimal risks anticipated with participation in this study. However, there will be questions about professional quality of life and relationship styles. This may require participants to think about and consider things that they find challenging regarding their employment and relationships, and it is possible that this could cause some level of distress in some participants. However, prior to participating in the study, participants will be informed that they will be asked questions about these topics and they can choose not to participate should they envisage that this may cause them distress. They can also choose to discontinue the study at any time. Participants will be advised to contact their GP should they feel distressed following participation. Participants will also not be informed that they will be randomly allocated to one of the two vignettes because it is expected that doing so may impact on responses. However this information will be given to participants on a debrief sheet at the end of the study.

The nature of the data and its anonymity means that there is no expected occasion when confidentiality may need to be broken.

A23. Will interviews/ questionnaires or group discussions include topics that might be sensitive, embarrassing or

upsetting, or is it possible that criminal or other disclosures requiring action could occur during the study?

(•) Yes ( ) No

If Yes, please give details of procedures in place to deal with these issues:

The questions in this study requires participants to think about and consider things that they may find challenging regarding their employment and relationships, and it is possible that this could cause some level of distress in some participants. However, prior to participating in the study, participants will be informed that they will be asked questions about these topics and they can choose not to participate should they envisage that this may cause them distress. They can also choose to discontinue the study at any time. Participants will be advised to contact their GP should they feel distressed following participation.

A24. What is the potential for benefit to research participants?

Participants will be able to choose if they would like to be entered into a prize draw to win one of four £50 Amazon vouchers following participation. Otherwise, there are no expected benefits of participation.

A26. What are the potential risks for the researchers themselves? *(if any)*

None anticipated.

RECRUITMENT AND INFORMED CONSENT

In this section we ask you to describe the recruitment procedures for the study. Please give separate details for different study groups where appropriate.

A27-1. How will potential participants, records or samples be identified? Who will carry this out and what resources will be used?*For example, identification may involve a disease register, computerised search of GP records, or review of medical records. Indicate whether this will be done by the direct healthcare team or by researchers acting under arrangements with the responsible care organisation(s).*

Contact has been made with local NHS research and development (R&D) departments and they have been informed about the research. Following ethical and HRA approval, the recruitment email will be emailed to the R&D departments along with relevant documentation. Once clinical approval has been granted from the Trusts, requests will be made for support with recruitment from the R&D departments. From preliminary conversations with the R&D departments, expected examples of dissemination processes are: 1) the research operations manager will contact the associate director of nursing in the Trust and requesting that they forward the recruitment email to nursing staff within the Trust; 2) the Trust's Communications department will be contacted and asked to forward the recruitment email to nursing staff and; 3) a link to the study will be put on the intranet and included in a research and innovation e-bulletin. However, the exact nature of dissemination of the survey will be dependent on the policy of each Trust.

Schools of nursing in the UK and private healthcare providers will also be contacted. Discussions will be held with research teams/managerial staff about how best to disseminate the survey through the services. However, it is expected that R&D/managerial staff will forward the recruitment email to relevant participants. Attempts will be made to attend team meetings of local healthcare providers and nursing schools to provide information about the project.

According to the British Psychological Society (BPS, 2012), social media offers "enormous potential to clinical researchers in terms of recruiting participants for research studies. Thus a researcher may establish a page on Facebook or other networking site to publicise their research findings to the general public and make contact with individuals interested in forthcoming studies... It is now feasible and thus more common to use social media such as Facebook to advertise research studies and recruit participants." Although the BPS suggests that a separate Facebook profile is made for communicating with service-users or undertaking research to maintain boundaries, this is not feasible, given that the site only permits one profile per user. Instead, the lead researcher's existing Facebook account will be used to advertise the study to existing nursing contacts in the first instance, and then on appropriate groups if required. In line with BPS guidelines, necessary permissions, such as from a site moderator, will be sought before posting advertisements. It is anticipated that the benefits of advertising the study to participants via Facebook, who may otherwise be unable to access the study, will outweigh the potential risks to the researcher's privacy. These risks will be minimised by having the strictest privacy settings in place, so no one, other than existing contacts will be able to gain any further information about the researcher. Should any attempts be made to contact the researcher through Facebook messenger, they will be directed to use the university email account, and no further contact will be made through Facebook. A new separate Twitter account will also be made to advertise the study, and it will be

advertised on survey websites.

Relevant nursing conferences in the North West will be approached about the study if possible. The Royal College of Nursing will be contacted for advice about how best to disseminate information about the study, such as in newsletters/emails/social media.

A27-2. Will the identification of potential participants involve reviewing or screening the identifiable personal information of patients, service users or any other person?

○ Yes ◉ No

Please give details below:
N/A

A28. Will any participants be recruited by publicity through posters, leaflets, adverts or websites?

◉ Yes ○ No

If Yes, please give details of how and where publicity will be conducted, and enclose copy of all advertising material (with version numbers and dates).

The research will be advertised on social media (in-line with answer 27.1) and survey interest websites. This will involve the use of an online poster. Relevant nursing conferences in the North West will be approached if possible and the poster will be disseminated if so. The Royal College of Nursing will be contacted for advice about how best to disseminate information about the study, such as in newsletters/emails/social media.

The advert for the survey will contain the link for the online survey so it will not be necessary for participants to contact a representative for the study.

A29. How and by whom will potential participants first be approached?

It is expected that the recruitment email will be forwarded to potential participants by the research and development (R&D)/communications department in NHS Trusts and managerial staff in private health providers/schools of nursing, should their be no R&D/Communications departments. However, the specifics will be dependent on the individual Trusts/services.

Participants will also be approached through social media (see 27.1 for details) or survey interest websites through a poster. If participants are recruited in person, they will be given a poster informing them about the study. In all instances, whether recruited online or in person, participants will be informed that participation is entirely voluntary.

A30-1. Will you obtain informed consent from or on behalf of research participants?

◉ Yes ○ No

If you will be obtaining consent from adult participants, please give details of who will take consent and how it will be done, with details of any steps to provide information (a written information sheet, videos, or interactive material). Arrangements for adults unable to consent for themselves should be described separately in Part B Section 6, and for children in Part B Section 7.

If you plan to seek informed consent from vulnerable groups, say how you will ensure that consent is voluntary and fully informed.

There will be a sentence at the beginning of the survey, following the participant information sheet, stating that if participants choose to proceed, they are giving their consent to enter the study and understand the repercussions of this.

If you are not obtaining consent, please explain why not.

Please enclose a copy of the information sheet(s) and consent form(s).

A30-2. Will you record informed consent (or advice from consultees) in writing?

○ Yes ◉ No

If No, how will it be recorded?

Participants will give their consent by proceeding to the online survey questions

A31. How long will you allow potential participants to decide whether or not to take part?

As long as they require, as participants will not be followed up by the research team to maintain anonymity. Data collection will run until n>111 participants have been recruited or until August 2019, whichever occurs first. At this point, the recruitment phase of the project will end and will move onto the data analysis and writing up phase.

A33-1. What arrangements have been made for persons who might not adequately understand verbal explanations or written information given in English, or who have special communication needs? *(e.g. translation, use of interpreters)*

Translation services will not be used because of cost restrictions. Because this study can be accessed by participants from any country, it would be beyond the scope of this study and not practicable to access translation services for this range of languages.

No arrangements will be made for people who may not adequately understand written information, as this level of English will be required to complete the standardised measures. Ability to understand these measures will be presumed given the requirement that participants are currently working as nursing staff.

A35. What steps would you take if a participant, who has given informed consent, loses capacity to consent during the study? *Tick one option only.*

- ○ The participant and all identifiable data or tissue collected would be withdrawn from the study. Data or tissue which is not identifiable to the research team may be retained.
- ○ The participant would be withdrawn from the study. Identifiable data or tissue already collected with consent would be retained and used in the study. No further data or tissue would be collected or any other research procedures carried out on or in relation to the participant.
- ○ The participant would continue to be included in the study.
- ○ Not applicable – informed consent will not be sought from any participants in this research.
- ◉ Not applicable – it is not practicable for the research team to monitor capacity and continued capacity will be assumed.

Further details:
N/A

CONFIDENTIALITY

In this section, personal data means any data relating to a participant who could potentially be identified. It includes pseudonymised data capable of being linked to a participant through a unique code number.

Storage and use of personal data during the study

A36. Will you be undertaking any of the following activities at any stage (including in the identification of potential participants)? *(Tick as appropriate)*

- ☐ Access to medical records by those outside the direct healthcare team
- ☐ Access to social care records by those outside the direct social care team
- ☑ Electronic transfer by magnetic or optical media, email or computer networks
- ☐ Sharing of personal data with other organisations
- ☐ Export of personal data outside the EEA

- ☐ Use of personal addresses, postcodes, faxes, emails or telephone numbers
- ☐ Publication of direct quotations from respondents
- ☐ Publication of data that might allow identification of individuals
- ☐ Use of audio/visual recording devices
- ☐ Storage of personal data on any of the following:
  - ☐ Manual files (includes paper or film)
  - ☐ NHS computers
  - ☐ Social Care Service computers
  - ☐ Home or other personal computers
  - ☑ University computers
  - ☐ Private company computers
  - ☐ Laptop computers

Further details:
Data will be transferred electronically. Electronic data will also be stored on the secure University H:Drive.

A37. Please describe the physical security arrangements for storage of personal data during the study?

Data will be anonymous and will be stored electronically on the secure H:drive at Lancaster University. Participants who wish to be entered into a prize draw will provide their email address. This information will also be stored on the secure drive at Lancaster University but in a separate folder to survey responses.

A38. How will you ensure the confidentiality of personal data?*Please provide a general statement of the policy and procedures for ensuring confidentiality, e.g. anonymisation or pseudonymisation of data.*

Data will be anonymous. For those who have submitted their email addresses, these will be stored in a separate folder from their survey responses on the secure Lancaster University H:Drive.

A40. Who will have access to participants' personal data during the study? *Where access is by individuals outside the direct care team, please justify and say whether consent will be sought.*

Only the research team will have access to the data, which will be anonymised. The lead researcher will have access to the email addresses of people who wish to be entered into a prize draw. However, this information will be stored in a folder on the secure university drive, separate to response data.

Storage and use of data after the end of the study

A41. Where will the data generated by the study be analysed and by whom?

Data will be analysed in England by the lead researcher, supported by the academic supervisor.

A42. Who will have control of and act as the custodian for the data generated by the study?

	Title	Forename/Initials	Surname
	Dr	Ian	Fletcher
Post	Senior Lecturer		
Qualifications			
Work Address	Clinical Psychology		

Division of Health Research

Post Code LA1 4YG
Work Email i.fletcher@lancaster.ac.uk
Work Telephone 01524593301
Fax

A43. How long will personal data be stored or accessed after the study has ended?

- ○ Less than 3 months
- ○ 3 – 6 months
- ◉ 6 – 12 months
- ○ 12 months – 3 years
- ○ Over 3 years

A44. For how long will you store research data generated by the study?

Years: 10
Months: 0

A45. Please give details of the long term arrangements for storage of research data after the study has ended. *Say where data will be stored, who will have access and the arrangements to ensure security.*

In line with policy and guidance from Lancaster University, data will be stored for 10 years on the secure university storage system. The academic supervisor will destroy the data after 10 years.

INCENTIVES AND PAYMENTS

A46. Will research participants receive any payments, reimbursement of expenses or any other benefits or incentives for taking part in this research?

◉ Yes ○ No

If Yes, please give details. For monetary payments, indicate how much and on what basis this has been determined.
Participants will be given the option to be entered into a prize draw to win one of four £50 Amazon vouchers.

A47. Will individual researchers receive any personal payment over and above normal salary, or any other benefits or incentives, for taking part in this research?

○ Yes ◉ No

A48. Does the Chief Investigator or any other investigator/collaborator have any direct personal involvement (e.g. financial, share holding, personal relationship etc.) in the organisations sponsoring or funding the research that may give rise to a possible conflict of interest?

○ Yes ◉ No

NOTIFICATION OF OTHER PROFESSIONALS

A49-1. Will you inform the participants' General Practitioners (and/or any other health or care professional responsible for their care) that they are taking part in the study?

○ Yes ◉ No

If Yes, please enclose a copy of the information sheet/letter for the GP/health professional with a version number and date.

PUBLICATION AND DISSEMINATION

A50. Will the research be registered on a public database?

◉ Yes ○ No

Please give details, or justify if not registering the research.
Lancaster University uses Pure as the data repository which will hold, manage, preserve and provide access to datasets produced by Lancaster University research.

Registration of research studies is encouraged wherever possible.
You may be able to register your study through your NHS organisation or a register run by a medical research charity, or publish your protocol through an open access publisher. If you are aware of a suitable register or other method of publication, please give details. If not, you may indicate that no suitable register exists. Please ensure that you have entered registry reference number(s) in question A5-1.

A51. How do you intend to report and disseminate the results of the study? *Tick as appropriate:*

- ☑ Peer reviewed scientific journals
- ☐ Internal report
- ☑ Conference presentation
- ☐ Publication on website
- ☑ Other publication
- ☐ Submission to regulatory authorities
- ☐ Access to raw data and right to publish freely by all investigators in study or by Independent Steering Committee on behalf of all investigators
- ☐ No plans to report or disseminate the results
- ☐ Other (please specify)

A52. If you will be using identifiable personal data, how will you ensure that anonymity will be maintained when publishing the results?

Not applicable.

A53. Will you inform participants of the results?

◉ Yes ○ No

Please give details of how you will inform participants or justify if not doing so.
Participants will be given the option of emailing the lead researcher for a summary of the findings should they wish.

5. Scientific and Statistical Review

A54. How has the scientific quality of the research been assessed? *Tick as appropriate:*

☐ Independent external review

☐ Review within a company

☐ Review within a multi–centre research group

☑ Review within the Chief Investigator's institution or host organisation

☑ Review within the research team

☑ Review by educational supervisor

☐ Other

Justify and describe the review process and outcome. If the review has been undertaken but not seen by the researcher, give details of the body which has undertaken the review:
The study proposal was reviewed by the University exam board. Following approval, the study, in its entirety has been discussed with the academic supervisor. This includes the research question, methodological and analytic approach and recruitment strategy amongst others. All study materials have also been reviewed, including participant information sheet, consent form, online survey materials, debrief sheet and posters, emails and other advertisement materials. This study, including all of these materials will be reviewed by the Lancaster University Faculty of Health and Medicine Research Ethics Committee.

For all studies except non-doctoral student research, please enclose a copy of any available scientific critique reports, together with any related correspondence.

For non-doctoral student research, please enclose a copy of the assessment from your educational supervisor/ institution.

A56. How have the statistical aspects of the research been reviewed? *Tick as appropriate:*

☐ Review by independent statistician commissioned by funder or sponsor

☐ Other review by independent statistician

☐ Review by company statistician

☐ Review by a statistician within the Chief Investigator's institution

☐ Review by a statistician within the research team or multi–centre group

☑ Review by educational supervisor

☑ Other review by individual with relevant statistical expertise

☐ No review necessary as only frequencies and associations will be assessed – details of statistical input not required

In all cases please give details below of the individual responsible for reviewing the statistical aspects. If advice has been provided in confidence, give details of the department and institution concerned.

	Title	Forename/Initials	Surname
	Dr	Ian	Fletcher
Department	Clinical Psychology, Division of Health Research		
Institution	Lancaster University		
Work Address	Clinical Psychology Division of Health Research		
Post Code	LA1 4YG		
Telephone			
Fax			
Mobile	01524593301		
E-mail	i.fletcher@lancaster.ac.uk		

Please enclose a copy of any available comments or reports from a statistician.

A57. What is the primary outcome measure for the study?

stigma, assessed by a social distance measure (Link et al., 1987).

A58. What are the secondary outcome measures?*(if any)*

N/A

A59. What is the sample size for the research? *How many participants/samples/data records do you plan to study in total? If there is more than one group, please give further details below.*

Total UK sample size:	111
Total international sample size (including UK):	111
Total in European Economic Area:	111

Further details:
Given that this study will be disseminated on social media and survey interest websites, it is not possible to specify how many participants will be recruited from within and outside of the UK. The target sample size is >111 participants. However, which country these participants are from cannot be specified.

A60. How was the sample size decided upon? *If a formal sample size calculation was used, indicate how this was done, giving sufficient information to justify and reproduce the calculation.*

To investigate relationships in multiple correlation, Wilson Van Voorhis and Morgan (2007) suggest using Green's (1991) formula of n>50+8m [m=number of independent variables]. There are seven possible independent variables: attachment (anxiety/avoidance), compassion (satisfaction/fatigue), emotional intelligence (interpersonal/intrapersonal) and vignettes. This results in a suggested sample size of n≥106. However, to detect medium effect sizes in regression, Green (1991) recommends n>104+m, resulting in a minimum sample size of n>111. The larger sample size should be used when using both correlation and regression (Wilson Van Voorhis and Morgan, 2007). As such, the larger figure (n>111) will be used. It is expected that medium effect sizes will be detected given the existing literature in this field. Dabby, Tranulis and Kirmayer's (2015) data suggests a large effect size for both of their sample groups when comparing their Social Distance Scale scores towards a vignette detailing an individual with schizophrenia with one describing an individual with a physical health condition. Cohen's d effect size was calculated using the mean, standard deviation and sample size detailed in this study, suggesting effect sizes of 1.01 and 0.92 (Social Science Statistics, 2018).

A61. Will participants be allocated to groups at random?

(●) Yes ( ) No

If yes, please give details of the intended method of randomisation:
Qualtrics software will be used for the online survey. This has the option to randomly allocate participants to different vignettes.

A62. Please describe the methods of analysis (statistical or other appropriate methods, e.g. for qualitative research) by which the data will be evaluated to meet the study objectives.

It is expected that multiple regression will be conducted following correlation analyses to investigate significant predictors of stigma. Regression analyses will also be conducted to assess any influence of demographic information including gender, time qualified, hours worked per week, country and service worked in (mental health, physical health, paediatric, adults etc).

6. MANAGEMENT OF THE RESEARCH

A63. Other key investigators/collaborators. *Please include all grant co–applicants, protocol co–authors and other key members of the Chief Investigator's team, including non-doctoral student researchers.*

	Title	Forename/Initials	Surname
	Dr	Ruth	O'Shaughnessy
Post	Clinical Psychologist & Assistant Clinical Lead		
Qualifications	Doctorate in Clinical Psychology		
Employer	Alder Hey NHS Foundation Trust		
Work Address	Fresh CAMHS Alder Road Liverpool		
Post Code	L12 2AP		
Telephone	01512933662		
Fax			
Mobile			
Work Email	ruth.oshaughnessy@alderhey.nhs.uk		

A64. Details of research sponsor(s)

A64-1. Sponsor

Lead Sponsor

Status:
- ○ NHS or HSC care organisation
- ◉ Academic
- ○ Pharmaceutical industry
- ○ Medical device industry
- ○ Local Authority
- ○ Other social care provider (including voluntary sector or private organisation)
- ○ Other

Commercial status: Non-Commercial

If Other, please specify:

Contact person

Name of organisation	Lancaster University
Given name	Becky
Family name	Gordon
Address	Research Services, Lancaster University
Town/city	Lancaster
Post code	
Country	UNITED KINGDOM
Telephone	01524592981
Fax	
E-mail	ethics@lancaster.ac.uk

A65. Has external funding for the research been secured?

Please tick at least one check box.

- ☐ Funding secured from one or more funders
- ☐ External funding application to one or more funders in progress
- ☑ No application for external funding will be made

What type of research project is this?

- ○ Standalone project
- ○ Project that is part of a programme grant
- ○ Project that is part of a Centre grant
- ○ Project that is part of a fellowship/ personal award/ research training award
- ◉ Other

Other – please state:
thesis

A66. Has responsibility for any specific research activities or procedures been delegated to a subcontractor (other than a co-sponsor listed in A64-1) ? *Please give details of subcontractors if applicable.*

○ Yes ◉ No

A67. Has this or a similar application been previously rejected by a Research Ethics Committee in the UK or another country?

○ Yes ◉ No

Please provide a copy of the unfavourable opinion letter(s). You should explain in your answer to question A6-2 how the reasons for the unfavourable opinion have been addressed in this application.

A68-1. Give details of the lead NHS R&D contact for this research:

	Title	Forename/Initials	Surname
	Ms	Beverley	Lowe
Organisation	Lancashire Care NHS Foundation Trust		
Address	Sceptre Point		
	Sceptre Way		
	Bamber Bridge, Preston, Lancashire		
Post Code	PR5 6AW		
Work Email	beverley.lowe@lancashirecare.nhs.uk		
Telephone	01772 773498		
Fax			
Mobile			

Details can be obtained from the NHS R&D Forum website: http://www.rdforum.nhs.uk

A69-1. How long do you expect the study to last in the UK?

Planned start date: 09/10/2018
Planned end date: 09/10/2019
Total duration:
Years: 1 Months: 0 Days: 1

A71-1. Is this study?

- ○ Single centre
- ◉ Multicentre

A71-2. Where will the research take place? *(Tick as appropriate)*

- [x] England
- [ ] Scotland
- [ ] Wales
- [ ] Northern Ireland
- [ ] Other countries in European Economic Area

Total UK sites in study 7 NHS

Does this trial involve countries outside the EU?

(•) Yes ( ) No

- [x] USA
- [x] Other international (please specify)

This study will only recruit from NHS Trusts, private health providers and nursing schools in England. However, the study will also be advertised on social media and survey interest websites, and will not exclude participants from other countries.

A72. Which organisations in the UK will host the research? *Please indicate the type of organisation by ticking the box and give approximate numbers if known:*

☑ NHS organisations in England	10
☐ NHS organisations in Wales	
☐ NHS organisations in Scotland	
☐ HSC organisations in Northern Ireland	
☐ GP practices in England	
☐ GP practices in Wales	
☐ GP practices in Scotland	
☐ GP practices in Northern Ireland	
☐ Joint health and social care agencies (eg community mental health teams)	
☐ Local authorities	
☐ Phase 1 trial units	
☐ Prison establishments	
☐ Probation areas	
☑ Independent (private or voluntary sector) organisations	5

☑ Educational establishments	5
☐ Independent research units	
☐ Other (give details)	
Total UK sites in study:	20

A73-1. Will potential participants be identified through any organisations other than the research sites listed above?

○ Yes ◉ No

A74. What arrangements are in place for monitoring and auditing the conduct of the research?

This research will be undertaken under the supervision of the research supervisor & field supervisor. Principles outlined in the policy framework for health & social care research will be adhered to at all times and monitored by the supervisors

A76. Insurance/ indemnity to meet potential legal liabilities

***Note:* in this question to NHS indemnity schemes include equivalent schemes provided by Health and Social Care (HSC) in Northern Ireland**

A76-1. What arrangements will be made for insurance and/or indemnity to meet the potential legal liability of the sponsor(s) for harm to participants arising from the management of the research? *Please tick box(es) as applicable.*

Note: Where a NHS organisation has agreed to act as sponsor or co-sponsor, indemnity is provided through NHS schemes. Indicate if this applies (there is no need to provide documentary evidence). For all other sponsors, please describe the arrangements and provide evidence.

☐ NHS indemnity scheme will apply (NHS sponsors only)

☑ Other insurance or indemnity arrangements will apply (give details below)

Lancaster University legal liability cover will apply

Please enclose a copy of relevant documents.

A76-2. What arrangements will be made for insurance and/ or indemnity to meet the potential legal liability of the sponsor(s) or employer(s) for harm to participants arising from the design of the research? *Please tick box(es) as applicable.*

Note: Where researchers with substantive NHS employment contracts have designed the research, indemnity is provided through NHS schemes. Indicate if this applies (there is no need to provide documentary evidence). For other protocol authors (e.g. company employees, university members), please describe the arrangements and provide evidence.

☐ NHS indemnity scheme will apply (protocol authors with NHS contracts only)

☑ Other insurance or indemnity arrangements will apply (give details below)

Lancaster University legal liability cover will apply

Please enclose a copy of relevant documents.

A76-3. What arrangements will be made for insurance and/ or indemnity to meet the potential legal liability of investigators/collaborators arising from harm to participants in the conduct of the research?

Note: Where the participants are NHS patients, indemnity is provided through the NHS schemes or through professional

indemnity. Indicate if this applies to the whole study (there is no need to provide documentary evidence). Where non-NHS sites are to be included in the research, including private practices, please describe the arrangements which will be made at these sites and provide evidence.

☑ NHS indemnity scheme or professional indemnity will apply (participants recruited at NHS sites only)

☑ Research includes non-NHS sites (give details of insurance/ indemnity arrangements for these sites below)

For NHS sites, NHS indemnity scheme or professional indemnity will apply. For non-NHS sites, Lancaster University legal liability cover will apply.

Please enclose a copy of relevant documents.

A78. Could the research lead to the development of a new product/process or the generation of intellectual property?

◉ Yes ○ No ○ Not sure

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PART C: Overview of research sites

Please enter details of the host organisations (Local Authority, NHS or other) in the UK that will be responsible for the research sites. *For further information please refer to guidance.*

Investigator identifier	Research site		Investigator Name
IN1	◉ NHS/HSC Site ○ Non-NHS/HSC Site		Forename Middle name Family name Email
	Organisation name	MERSEY CARE NHS FOUNDATION TRUST	Qualification (MD...)
	Address	8 PRINCES PARADE LIVERPOOL MERSEYSIDE	Country
	Post Code	L3 1DL	
	Country	ENGLAND	
IN2	◉ NHS/HSC Site ○ Non-NHS/HSC Site		Forename Middle name Family name Email
	Organisation name	LANCASHIRE CARE NHS FOUNDATION TRUST	Qualification (MD...)
	Address	SCEPTRE POINT SCEPTRE WAY BAMBER BRIDGE PRESTON LANCASHIRE	Country
	Post Code	PR5 6AW	
	Country	ENGLAND	

IN3

◉ NHS/HSC Site
○ Non-NHS/HSC Site

Forename
Middle name
Family name
Email

Organisation name	CHESHIRE AND WIRRAL PARTNERSHIP NHS FOUNDATION TRUST	Qualification (MD...)
Address	TRUST BOARD OFFICES	Country
	UPTON LEA RESOURCE CENTRE	

	THE COUNTESS OF CHESTER HEALTH PARK CHESTER CHESHIRE
Post Code	CH2 1BQ
Country	ENGLAND

IN4

◉ NHS/HSC Site
○ Non-NHS/HSC Site

Forename
Middle name
Family name
Email

Organisation name	BLACKPOOL TEACHING HOSPITALS NHS FOUNDATION TRUST	Qualification (MD...)
Address	VICTORIA HOSPITAL	Country
	WHINNEY HEYS ROAD	
	BLACKPOOL LANCASHIRE	
Post Code	FY3 8NR	
Country	ENGLAND	

IN5

◉ NHS/HSC Site
○ Non-NHS/HSC Site

Forename
Middle name
Family name
Email
Qualification (MD...)
Country

Organisation name	LANCASHIRE TEACHING HOSPITALS NHS FOUNDATION TRUST
Address	CHIEF EXECUTIVE'S OFFICE ROYAL PRESTON HOSPITAL SHAROE GREEN LANE, FULWOOD PRESTON LANCASHIRE
Post Code	PR2 9HT
Country	ENGLAND

IN6

◉ NHS/HSC Site
○ Non-NHS/HSC Site

Forename
Middle name
Family name
Email
Qualification (MD...)
Country

Organisation name	SALFORD ROYAL NHS FOUNDATION TRUST
Address	SALFORD ROYAL STOTT LANE SALFORD GREATER MANCHESTER
Post Code	M6 8HD
Country	ENGLAND

IN7

◉ NHS/HSC Site
○ Non-NHS/HSC Site

Forename
Middle name
Family name
Email
Qualification (MD...)
Country

Organisation name	WARRINGTON AND HALTON HOSPITALS NHS FOUNDATION TRUST
Address	WARRINGTON HOSPITAL LOVELY LANE WARRINGTON CHESHIRE
Post Code	WA5 1QG
Country	ENGLAND

IN8

(•) NHS/HSC Site
( ) Non-NHS/HSC Site

Forename
Middle name
Family name
Email
Qualification (MD...)
Country

Organisation name	ROYAL LIVERPOOL AND BROADGREEN UNIVERSITY HOSPITALS NHS TRUST
Address	ROYAL LIVERPOOL UNIVERSITY HOSPITAL PRESCOT STREET LIVERPOOL MERSEYSIDE
Post Code	L7 8XP
Country	ENGLAND

IN10

(•) NHS/HSC Site
( ) Non-NHS/HSC Site

Forename
Middle name
Family name
Email
Qualification (MD...)
Country

Organisation name	GREATER MANCHESTER MENTAL HEALTH NHS FOUNDATION TRUST
Address	PRESTWICH HOSPITAL BURY NEW ROAD PRESTWICH MANCHESTER GREATER MANCHESTER
Post Code	M25 3BL
Country	ENGLAND

IN11

(•) NHS/HSC Site
( ) Non-NHS/HSC Site

Forename
Middle name
Family name
Email
Qualification (MD...)
Country

Organisation name	ST HELENS AND KNOWSLEY HOSPITAL SERVICES NHS TRUST
Address	WHISTON HOSPITAL WARRINGTON ROAD PRESCOT MERSEYSIDE
Post Code	L35 5DR
Country	ENGLAND

D1. Declaration by Chief Investigator

1. The information in this form is accurate to the best of my knowledge and belief and I take full responsibility for it.
2. I undertake to fulfil the responsibilities of the chief investigator for this study as set out in the UK Policy Framework for Health and Social Care Research.
3. I undertake to abide by the ethical principles underlying the Declaration of Helsinki and good practice guidelines on the proper conduct of research.
4. If the research is approved I undertake to adhere to the study protocol, the terms of the full application as approved and any conditions set out by review bodies in giving approval.
5. I undertake to notify review bodies of substantial amendments to the protocol or the terms of the approved application, and to seek a favourable opinion from the main REC before implementing the amendment.
6. I undertake to submit annual progress reports setting out the progress of the research, as required by review bodies.
7. I am aware of my responsibility to be up to date and comply with the requirements of the law and relevant guidelines relating to security and confidentiality of patient or other personal data, including the need to register when necessary with the appropriate Data Protection Officer. I understand that I am not permitted to disclose identifiable data to third parties unless the disclosure has the consent of the data subject or, in the case of patient data in England and Wales, the disclosure is covered by the terms of an approval under Section 251 of the NHS Act 2006.
8. I understand that research records/data may be subject to inspection by review bodies for audit purposes if required.
9. I understand that any personal data in this application will be held by review bodies and their operational managers and that this will be managed according to the principles established in the Data Protection Act 1998.
10. I understand that the information contained in this application, any supporting documentation and all correspondence with review bodies or their operational managers relating to the application:
    - Will be held by the REC (where applicable) until at least 3 years after the end of the study; and by NHS R&D offices (where the research requires NHS management permission) in accordance with the NHS Code of Practice on Records Management.
    - May be disclosed to the operational managers of review bodies, or the appointing authority for the REC (where applicable), in order to check that the application has been processed correctly or to investigate any complaint.
    - May be seen by auditors appointed to undertake accreditation of RECs (where applicable).
    - Will be subject to the provisions of the Freedom of Information Acts and may be disclosed in response to requests made under the Acts except where statutory exemptions apply.
    - May be sent by email to REC members.

11. I understand that information relating to this research, including the contact details on this application, may be held on national research information systems, and that this will be managed according to the principles established in the Data Protection Act 1998.
12. Where the research is reviewed by a REC within the UK Health Departments Research Ethics Service, I understand that the summary of this study will be published on the website of the National Research Ethics Service (NRES), together with the contact point for enquiries named below. Publication will take place no earlier than 3 months after issue of the ethics committee's final opinion or the withdrawal of the application.

Contact point for publication*(Not applicable for R&D Forms)*

NRES would like to include a contact point with the published summary of the study for those wishing to seek further

information. We would be grateful if you would indicate one of the contact points below.

- (•) Chief Investigator
- ( ) Sponsor
- ( ) Study co-ordinator
- ( ) Student
- ( ) Other – please give details
- ( ) None

Access to application for training purposes *(Not applicable for R&D Forms)*

Optional – please tick as appropriate:

☐ I would be content for members of other RECs to have access to the information in the application in confidence for training purposes. All personal identifiers and references to sponsors, funders and research units would be removed.

This section was signed electronically by Miss Sophie Valavanis on 05/12/2018 21:52.

Job Title/Post:	Trainee Clinical Psychologist
Organisation:	Lancaster University
Email:	s.valavanis@lancaster.ac.uk

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D2. Declaration by the sponsor's representative

If there is more than one sponsor, this declaration should be signed on behalf of the co-sponsors by a representative of the lead sponsor named at A64-1.

I confirm that:

1. This research proposal has been discussed with the Chief Investigator and agreement in principle to sponsor the research is in place.
2. An appropriate process of scientific critique has demonstrated that this research proposal is worthwhile and of high scientific quality.
3. Any necessary indemnity or insurance arrangements, as described in question A76, will be in place before this research starts. Insurance or indemnity policies will be renewed for the duration of the study where necessary.
4. Arrangements will be in place before the study starts for the research team to access resources and support to deliver the research as proposed.
5. Arrangements to allocate responsibilities for the management, monitoring and reporting of the research will be in place before the research starts.
6. The responsibilities of sponsors set out in the UK Policy Framework for Health and Social Care Research will be fulfilled in relation to this research.

   Please note: *The declarations below do not form part of the application for approval above. They will not be considered by the Research Ethics Committee.*
7. Where the research is reviewed by a REC within the UK Health Departments Research Ethics Service, I understand that the summary of this study will be published on the website of the National Research Ethics Service (NRES), together with the contact point for enquiries named in this application. Publication will take place no earlier than 3 months after issue of the ethics committee's final opinion or the withdrawal of the application.
8. Specifically, for submissions to the Research Ethics Committees (RECs) I declare that any and all clinical trials approved by the HRA since 30th September 2013 (as defined on IRAS categories as clinical trials of medicines, devices, combination of medicines and devices or other clinical trials) have been registered on a publically accessible register in compliance with the HRA registration requirements for the UK, or that any deferral granted by the HRA still applies.

This section was signed electronically by An authorised approver at ethics@lancaster.ac.uk on 11/12/2018 10:50.

Job Title/Post:	Deputy Head of Research Services
Organisation:	Lancaster University
Email:	b.gordon@lancaster.ac.uk

IRAS Form | Reference: 19/hra/0553 | IRAS Version 5.9.1

D3. Declaration for student projects by academic supervisor(s)

1. I have read and approved both the research proposal and this application. I am satisfied that the scientific content of the research is satisfactory for an educational qualification at this level.

2. I undertake to fulfil the responsibilities of the supervisor for this study as set out in the UK Policy Framework for Health and Social Care Research.

3. I take responsibility for ensuring that this study is conducted in accordance with the ethical principles underlying the Declaration of Helsinki and good practice guidelines on the proper conduct of research, in conjunction with clinical supervisors as appropriate.

4. I take responsibility for ensuring that the applicant is up to date and complies with the requirements of the law and relevant guidelines relating to security and confidentiality of patient and other personal data, in conjunction with clinical supervisors as appropriate.

Academic supervisor 1

This section was signed electronically by Dr Ian Fletcher on 06/12/2018 09:13.

Job Title/Post:	Senior Lecturer
Organisation:	Lancaster University
Email:	i.j.fletcher@lancs.ac.uk

Research Protocol:

Individual Differences and Nurses' Attitudes towards Service-Users with a Psychiatric Diagnosis

Applicant: Sophie Valavanis

Research Supervisor: Dr Ian Fletcher

Field Supervisor: Dr Ruth O'Shaughnessy

Introduction

Stigma

The concept of stigma has been widely conceptualised (Link & Phelan, 2001). One of the most established, contemporary definitions was written by Goffman (1963) who describes stigma as "an attribute that is deeply discrediting" (p. 3), which reduces the perception of a person to someone who is tainted. Elsewhere, stigma has been conceptualised as having a more social component, described as characteristics that are contrary to a social norm (Stafford & Scott, 1986, p.80), or "negative social meanings or stereotypes assigned to a people when their attributes are considered both different from or inferior to societal norms" (Dudley, 2000, p. 449). Link and Phelan (2001) expand on this definition and posit that stigma exists when there is a convergence of the following components: 1) human differences are labelled; 2) dominant cultural beliefs link labelled people to negative characteristics and stereotypes; 3) there is some 'us' and 'them' separation; 4) labelled people experience a loss of status and discrimination resulting in unequal outcomes and; 5) this occurs in the context of a social, economic and political power situation which allows these components of stigma to transpire.

Mental Health Stigma

Stigma is widely acknowledged to be experienced by people with mental health difficulties. In a Time to Change (2008) survey of service users' and carers' experiences, 69% of the service user sample, reported having been treated differently, in a negative way, because of their mental health difficulties. Furthermore, 71% reported that stigma and discrimination stopped them from doing the things they wanted to do, and 73% felt that even the fear of stigma and discrimination was enough to stop them from doing the things they wanted to do. Research suggests that mental health stigma has a far-reaching impact, including on self-perception, employment and housing, interpersonal relationships, physical and mental health and the seeking of mental health treatment (Sickel, Seacat, & Nabors, 2014).

Professional Stigma

Research suggests that interpersonal contact or interaction with stigmatised groups of people has the capacity to change both stigmatising attitudes and behaviours (Overton & Medina, 2008). However, it is not only those who do not have contact with people with mental health difficulties who hold stigmatising attitudes and behaviour. Stigmatising attitudes towards people with mental health difficulties have been noted in both physical and mental health nurses, undergraduate nurses, and mental health professionals (Emrich, Thompson, & Moore, 2003; Fokuo et al, 2017; Hansson, Jormfeldt, Svedberg, & Svensson, 2013; Ross & Goldner 2009; Surgenor, Dunn & Horn, 2005). Furthermore, in a review of the literature, Ross and Goldner (2009) found that service-users with mental health difficulties felt that they had been treated with a lack of dignity and caring by nursing staff, even when their primary reason for seeking help was not related to their mental health. Mental health

nurses were also found to have more negative attitudes towards service-user recovery than those of the general population (Ross & Goldner, 2009).

Burnout and Compassion Fatigue

Research suggests that burnout in psychiatric staff is associated with negative feelings towards patients (Holmqvist & Jeanneau, 2006). Holmqvist and Jenneau (2006) found that dimensions of tedium, emotional exhaustion and depersonalisation were associated with unhelpful and rejecting feelings towards patients, whereas personal accomplishment was associated with accepting, helpful and close feelings. However, the direction of this relationship is unclear. High levels of work related stress, burnout, job dissatisfaction and poor health are common within the nursing profession (Khamisa, Peltzer, & Oldenburg, 2013).

Stamm (2010) posits that burnout is an important factor which contributes to professional quality of life; the quality one feels in relation to their work as a helper. Professional quality of life incorporates compassion satisfaction (the pleasure derived from being able to do one's work well) and compassion fatigue (comprising of burnout and secondary traumatic stress). In Stamm's (2010) model, burnout encompasses factors such as exhaustion, frustration, anger and depression, associated to feelings of hopelessness and difficulties in dealing with work or doing the work effectively. Secondary trauma relates to a negative feeling driven by fear and work-related trauma from exposure to people who have experienced extremely or traumatically stressful events. It has been suggested that although burnout and compassion fatigue are similar constructs, burnout can apply to a wide range of work settings, compassion-fatigue is typically reserved for application with those in the helping profession (West, 2015).

Attachment Style

Although there is extensive research regarding demographic, situational and organisational antecedents of burnout and compassion fatigue, there is less regarding psychological links (West, 2015). In a recent systematic review, attachment style was found to be related (West, 2015).

Bowlby (1973) proposed that early childhood experiences lead to people developing internal working models that persist across the lifespan. He posited that these attachment styles influence relationships and styles of coping in adulthood. More recent research has focused on adult attachment styles, from both a developmental perspective and a social psychology perspective (Shaver & Mikulincer, 2002). The social perspective posits that adult attachment can be measured along two dimensions: anxiety and avoidance (Brennan, Clark, & Shaver, 1998). People who score low on both dimensions are deemed to have a secure attachment style (Shaver & Mikulincer, 2009).

West (2015) found that attachment security was associated with lower levels of burnout and/or compassion fatigue in health and human service workers, whereas attachment anxiety was associated with higher levels. Studies indicate that adult attachment style may influence the support provided by professionals (Dehning et al., 2013; George & Solomon, 1999; Joireman, Needham & Cummings, 2002; Kazmierczak, 2015; Wood & Riggs, 2008). Secure attachment is associated with responsive caregiving (Kunce & Shaver, 1994) and a greater willingness to provide care for others (Feeney & Hohaus, 2001). Conversely, insecure therapist attachment style is associated with poorer alliance in counselling relationships (Dunkle & Friedlander, 1996) and insensitive and inflexible interactions (Dozier, Cue, & Barnett, 1994). Berry, Shah, Cook, Geater, Barrowclough and Wearden (2008) found that higher staff avoidance was associated with poorer staff psychological mindedness, whilst

lower anxiety and avoidance were associated with positive therapeutic relationships. Mikulincer and Shaver (2005) argue that people who are highly avoidant or anxious in attachment are more likely to be preoccupied with their own needs, affecting their ability to attend to the needs of others.

Emotional Intelligence

Along with being linked to how staff relate to service-users, attachment style has also been connected to emotional intelligence (EI; the ability to monitor one's own and other's emotions, and to use this to guide thinking and actions) (Cherry, Fletcher, & O'Sullivan. 2014). Medical students and doctors with higher EI were assessed as better at communicating with patients, as were those with lower attachment avoidance scores (Cherry et al., 2014).

Rationale for Study and Aims

A review of the literature found that stigma towards people with mental health difficulties is a significant problem within nursing and although it may be uncomfortable, honest reflection and assertive action should be taken to minimise it. The study also reflected that nurses are prone to the same "deep-seated psychological vulnerabilities that lead all human beings to be prone to such defensive behaviour" (Ross & Goldner, 2009, p. 565).

Theory about the development of stigma in health professionals is very limited (Ahmedani, 2011). It is therefore crucial to develop a better understanding of the factors associated with nursing staff's attitudes to people with a psychiatric diagnosis to try and reduce the prevalence of stigma. It is hoped that doing so may contribute to future research, training and clinical practice. It has been suggested that stigma in health professionals may develop through upbringing or work experiences (Ahmedani, 2011). As such, it follows to explore factors related to upbringing and work experiences in relation to stigma. Thus, this

research aims to explore the 'knowledge gap' in the existing literature, regarding the relationship between nursing staff's attitudes towards people with a psychiatric diagnosis and their attachment styles, emotional intelligence and professional quality of life.

Method

Participants and Recruitment

The following inclusion criteria will be applied: 1) nurses who are currently practising nursing or are in training; 2) speak sufficient English to be able to understand and complete the survey. The following exclusion criteria will apply: 1) participants who are not currently practising nursing or in training; 3) those who do not speak sufficient English to complete the study.

To investigate relationships in multiple correlation, Wilson Van Voorhis and Morgan (2007) suggest using Green's (1991) formula of $n>50+8m$ [m=number of independent variables]. There are seven possible independent variables: attachment (anxiety/avoidance), compassion (satisfaction/fatigue), emotional intelligence (interpersonal/intrapersonal) and vignettes. This results in a suggested sample size of $n\geq106$. However, to detect medium effect sizes in regression, Green (1991) recommends $n>104+m$, resulting in a minimum sample size of $n>111$. The larger sample size should be used when using both correlation and regression (Wilson Van Voorhis and Morgan, 2007). As such, the larger figure ($n>111$) will be used. It is expected that medium effect sizes will be detected given the existing literature in this field. Dabby, Tranulis and Kirmayer's (2015) data suggests a large effect size for both of their sample groups when comparing their Social Distance Scale scores towards a vignette detailing an individual with schizophrenia with one describing an individual with a physical health condition. Cohen's d effect size was calculated using the mean, standard deviation and

sample size detailed in this study, suggesting effect sizes of 1.01 and 0.92 (Social Science Statistics, 2018).

Contact has been made with local NHS research and development (R&D) departments and they have been informed about the research. Following ethical and Health Research Authority (HRA) approval, the recruitment email will be emailed to the R&D departments along with relevant documentation. Once clinical approval has been granted from the Trusts, requests will be made for support with recruitment from the R&D departments. From preliminary conversations with the R&D departments, expected examples of dissemination processes are: 1) the research operations manager will contact the associate director of nursing in the Trust and requesting that they forward the recruitment email to nursing staff within the Trust; 2) the Trust's Communications department will be contacted and asked to forward the recruitment email to nursing staff and; 3) a link to the study will be put on the intranet and included in a research and innovation e-bulletin. However, the exact nature of dissemination of the survey will be dependent on the policy of each Trust.

Schools of nursing in England and private healthcare providers will also be contacted. Discussions will be held with research teams/managerial staff about how best to disseminate the survey through the services. However, it is expected that R&D/managerial staff will forward the recruitment email to relevant participants. Attempts will be made to attend team meetings of local healthcare providers and nursing schools to provide information about the project.

According to the British Psychological Society (BPS, 2012), social media offers "enormous potential to clinical researchers in terms of recruiting participants for research studies. Thus a researcher may establish a page on Facebook or other networking site to publicise their research findings to the general public and make contact with individuals

interested in forthcoming studies" (p. 5). "It is now feasible and thus more common to use social media such as Facebook to advertise research studies and recruit participants." (p. 8). Although the BPS suggests that a separate Facebook profile is made for communicating with service-users or undertaking research to maintain boundaries, this is not feasible, given that the site only permits one profile per user. Instead, the lead researcher's existing Facebook account will be used to advertise the study to existing nursing contacts in the first instance, and then on appropriate groups if required. In line with BPS guidelines, necessary permissions, such as from a site moderator, will be sought before posting advertisements. It is anticipated that the benefits of advertising the study to participants via Facebook, who may otherwise be unable to access the study, will outweigh the potential risks to the researcher's privacy. These risks will be minimised by having the strictest privacy settings in place, so no one, other than existing contacts will be able to gain any further information about the researcher. Should any attempts be made to contact the researcher through Facebook messenger, they will be directed to use the university email account, and no further contact will be made through Facebook. A new separate Twitter account will also be made to advertise the study, and it will be advertised on survey websites.

Relevant nursing conferences in the North West will be approached about the study if possible. The Royal College of Nursing will be contacted for advice about how best to disseminate information about the study, such as in newsletters/emails/social media.

Design and Materials

This quantitative cross-sectional study will be undertaken through completion of an online survey, using Qualtrics software, which will take approximately 15 minutes to complete. No further tasks will be required of them after this. Two nurses have provided input into the development of the vignettes and the questionnaire was trialled with a research

nurse to assess the appropriateness, relevance, understandability and relevance of the questions.

Demographic information will be gathered, including questions such as age, gender, length of qualification, hours worked per week and service worked in.

Attachment Style. The Experiences in Close Relationships Questionnaire (ECR)-Short Form (Wei, Russell, Mallinckrodt, & Vogel, 2007) is a 12-item self-report measure, which requires the participant to consider how they generally feel in intimate relationships. Participants are required to indicate how much they agree or disagree with the 12 statements using a 7-point Likert scale. The measure consists of two subscales (Anxiety and Avoidance). Research suggests that this is a reliable and valid measure of adult attachment, and the psychometric properties (internal consistency, test-retest reliability, factor structure, and validity) appear to be comparable to the original version (Wei et al., 2007).

Professional Quality of Life. Participants' compassion satisfaction/fatigue will be measured with the Professional Quality of Life (ProQOL) Compassion Satisfaction and Compassion Fatigue Version 5 (Stamm, 2009). This measure comprises 30 items regarding the participant's experiences in their current work as a helper. Items are rated using a 5-point Likert scale and the measure has good construct validity.

Emotional Intelligence. Interpersonal and intrapersonal emotional intelligence will be measured using the 20-item Short Profile of Emotional Competence (S-PEC) which has adequate psychometric properties, including concurrent and predictive validity (Mikolajczak, Brasseur, & Fantini-Hauwel, 2014).

Vignettes. Participants will be randomly presented with one of two vignettes, which is one of the most common methodological approaches employed in the study of the stigma of mental

illness (Link, Yang, Phelan, & Collins, 2004). The first vignette will describe a man with a diagnosis of schizophrenia. The second will describe the same man but with a diagnosis of asthma instead. Schizophrenia was chosen in the vignette as people with this diagnosis are arguably most affected by the view that they are dangerous, unpredictable and unreliable (Rössler, 2016). Furthermore, Nordt, Rössler, & Lauber (2006) found that both mental health professionals and the general public showed less desire for social contact with people with schizophrenia compared to people with either depression or no psychiatric symptoms. Additionally, in a systematic review and meta-analysis, Schomerus, Schwahn, Holzinger, Corrigan, Grabe, Carta and Angermeyer (2012) found that acceptance of people with schizophrenia as a co-worker or neighbour have reduced since 1990 and acceptance as a friend or in-law has remained low.

A chronic physical health condition will be used as a comparison vignette. Asthma was chosen following discussions with two nursing staff from different services and the academic supervisor, as it was deemed to be an easily recognisable condition, irrespective of the level or area of training, and one which is not traditionally associated with significant levels of stigma itself. The vignettes were adapted from ones used by Link et al. (1987). The vignettes describe a young man who is functioning well but experiences some mild levels of frustration. The aim of this is to elicit some desire for social distance whilst allowing observation of any effects resulting from the difference in presented diagnosis, should there be any.

Stigma. One of the most commonly used measures of stigma is that of social distance (Link et al., 2004). Social distance is the level of social proximity one desires between oneself and another person (Smith & Cashwell, 2011). Scales measuring social distance have frequently been used in research regarding stigma but particularly with studies employing vignettes

(Link et al., 2004). In this study, social distance will be measured using the Social Distance Scale (Link, Cullen, Frank, & Wozniak, 1987), which includes seven multiple-choice questions given in relation to the vignettes. The Social Distance Scale has good internal consistency and validity, and is often used in stigma research as a proxy measure for behavioural indexes of discrimination against people with mental health difficulties (Corrigan, Backs Edwards, Green, Lickey Diwan, & Penn, 2001).

Analysis

It is expected that multiple regression will be conducted following correlation analyses to investigate significant predictors of stigma. Regression analyses will also be conducted to assess any influence of demographic information including gender, time qualified, hours worked per week, country and service worked in (mental health, physical health, paediatric, adults etc).

Practical Issues

Data Storage

Data will be anonymous and will be stored electronically on the secure computer drive at Lancaster University. Participants who wish to be entered into a prize draw will provide their email address. This information will also be stored on the secure drive at Lancaster University but in a separate folder to survey responses. Email addresses will be destroyed within 12 months of study completion. In line with policy and guidance from Lancaster University, data will be stored for 10 years on the secure university storage system, following which the academic supervisor will destroy the data.

Costs

Participants will be offered the opportunity to be entered into a prize draw to win one of four £50 Amazon vouchers following their participation, resulting in total costs of £200.

Ethical Considerations

Attempts will be made to ensure that participants who choose to participant in this study do so based on adequate information and informed consent. Participant information sheets will provide information about the length of study, an outline of what will be required of them and potential risks and benefits of participating. Even after consenting to begin the study, they will be able to exit from the study at any point prior to submission of the data and can take as much time as they require to consider whether they want to participate. Data and participation will be anonymous, unless participants wish to submit their email address for submission into a prize draw. Participants will be informed that their participation will be anonymous and their choice of whether to participate or not will not be shared with their employers.

Given that participants will be required to be nurses, capacity to consent will be presumed. There will be a section at the beginning of the survey, following the participant information sheet, stating that if participants choose to proceed, they are giving their consent to enter the study and understand the repercussions of this.

Participants will be able to choose if they would like to be entered into a prize draw for participation. Otherwise, there are no expected benefits of participation. There are minimal risks anticipated with participation in this study. However, there will be questions about professional quality of life and relationship styles. This may require participants to think about and consider things that they find challenging regarding their employment and

relationships, and it is possible that this could cause some level of distress in some participants. However, prior to participating in the study, participants will be informed that they will be asked questions about these topics and they can choose not to participate should they envisage that this may cause them distress. They can also choose to discontinue the study at any time and will be advised to contact their GP should they feel distressed following participation. Participants will not be informed that they will be randomly allocated to one of the two vignettes because it is expected that doing so may impact on responses. However, this information will be given to participants on a debrief sheet at the end of the study.

It is hoped that the potential benefits of undertaking this research, in terms of gaining a better understanding of the factors which may be related to nursing staff's stigma, will outweigh the potential risks/burdens associated with the study. Mental health stigma has been shown to have far-reaching consequences, and as such contributing to this area of research is worthwhile.

Ethical approval will be sought from the Faculty of Health and Medicine Research Ethics Committee and approval will be sought from the HRA given the inclusion of participants from NHS Trusts.

It is planned for the findings from this research to be submitted to a peer-reviewed journal for publication. Summary reports will be sent to the NHS Trusts and nursing schools who distributed the survey to their staff. Participants will be able to email the researcher for a summary of the results of the study, should they wish to do so.

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Ymchwil Iechyd a Gofal Cymru
Health and Care Research Wales

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Miss Sophie Valavanis
Trainee Clinical Psychologist
Lancaster University
Clinical Psychology
Division of Health Research
LA1 4YG

25 January 2019

Dear Miss Valavanis

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

Study title:	**Individual Differences and Nurses' Attitudes towards Service-Users with a Psychiatric Diagnosis**
IRAS project ID:	**252700**
Protocol number:	**N/A**
REC reference:	**19/HRA/0553**
Sponsor	**Lancaster University**

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.

Participating NHS organisations in England and Wales **will not** be required to formally confirm capacity and capability before you may commence research activity at site. As such, you may commence the research at each organisation 35 days following sponsor provision to the site of the local information pack, so long as:

- You have contacted participating NHS organisations (see below for details)
- The NHS organisation has not provided a reason as to why they cannot participate
- The NHS organisation has not requested additional time to confirm.

You may start the research prior to the above deadline if the site positively confirms that the research may proceed.

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If not already done so, you should now provide the local information pack for your study to your participating NHS organisations. A current list of R&D contacts is accessible at the NHS RD Forum website and these contacts MUST be used for this purpose. After entering your IRAS ID you will be able to access a password protected document (password: **Redhouse1**). The password is updated on a monthly basis so please obtain the relevant contact information as soon as possible; please do not hesitate to contact me should you encounter any issues.

Commencing research activities at any NHS organisation before providing them with the full local information pack and allowing them the agreed duration to opt-out, or to request additional time (unless you have received from their R&D department notification that you may commence), is a breach of the terms of HRA and HCRW Approval. Further information is provided in the "*summary of assessment*" section towards the end of this document.

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.

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.

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The sponsor contact for this application is as follows:

Name: Ms Becky Gordon
Tel: 01524592981
Email: ethics@lancaster.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 **252700**. Please quote this on all correspondence.

Yours sincerely

Helen Penistone
Assessor

Tel: 0207 104 8010
Email: hra.approval@nhs.net

Copy to: *Ms Becky Gordon (sponsor contact)*
Ms Beverley Lowe, Lancashire Care NHS Foundation Trust (lead NHS R&D contact)

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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*
Confirmation of any other Regulatory Approvals (e.g. CAG) and all correspondence [Ethics approval]	0.1	30 November 2018
Copies of advertisement materials for research participants [Poster]	0.3	06 November 2018
Evidence of Sponsor insurance or indemnity (non NHS Sponsors only) [EL & PL]	0.1	30 November 2018
HRA Schedule of Events	1	25 January 2019
HRA Statement of Activities	1	25 January 2019
IRAS Application Form [IRAS_Form_11122018]		11 December 2018
Letter from sponsor [Sponsorship letter]	0.1	30 November 2018
Letters of invitation to participant [Invitation email]	0.3	06 November 2018
Non-validated questionnaire [Demographic qs]	0.3	06 November 2018
Participant consent form [consent]	0.3	06 November 2018
Participant information sheet (PIS) [PIS]	0.5	25 January 2019
Research protocol or project proposal [Thesis Research Protocol]	0.1	24 July 2018
Summary CV for Chief Investigator (CI) [Chief Investigator CV]	0.1	29 November 2018
Summary CV for supervisor (student research) [Supervisor CV]	0.1	01 May 2018
Validated questionnaire [Questionnaires]	0.3	29 November 2018

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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	Although formal confirmation of capacity and capability is not expected of all or some organisations participating in this study, and such organisations would therefore be assumed to have confirmed their capacity and capability should they not respond to the contrary, we would ask that these organisations pro-actively engage with the sponsor in order to confirm at as early a date as possible. Confirmation in such cases should be by email to the CI and Sponsor confirming participation based on the relevant Statement of Activities and information within this letter.
4.2	Insurance/indemnity arrangements assessed	Yes	No comments
4.3	Financial arrangements assessed	Yes	No external funding has been sought. As per the statement of activities, no funding will be available to PICs to

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Section	Assessment Criteria	Compliant with Standards	Comments
			support the study.
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 Trials Regulations assessed	Not Applicable	No comments
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	Only NHS staff will be recruited to this study by virtue of their professional role.
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.
NHS organisations will act as participant identification centres. An invitation to complete a survey will be emailed to eligible members of staff. 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

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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).
The chief investigator will be responsible for activities undertaken at participant identification centres. It is not anticipated that any study specific training will be needed locally. 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
It is not expected that there will be any additional HR arrangements needed at participant identification centres as only existing members of staff with access to mailing lists will send out email invites.

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.

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Health and Care Research Wales

NHS
Health Research Authority

HEALTH SERVICES RESEARCH STUDIES RESTRICTED TO RECRUITING NHS STAFF

After HRA and Health and Care Research Wales Approval – guidance for sponsors and investigators

This document sets out important guidance for sponsors and investigators on the conduct and management of health services research with HRA and Health and Care Research Wales Approval that is outside of the remit of the NHS Research Ethics Service (see GAfREC for further information on this remit). Please read the guidance carefully. A failure to follow the guidance could lead to the Health Research Authority (HRA) and Health and Care Research Wales (HCRW) reviewing the Approval status of the research.

1. Further communications with the HRA and HCRW

1.1 Further communications during the research are generally the responsibility of the sponsor.

However, the sponsor may delegate responsibility to the chief investigator (CI) or another representative.

2. Commencement of the research

2.1 It is assumed that the research will commence within 12 months of the date of HRA/HCRW Approval.

2.2 The research should not commence at any non-NHS organisation until the local principal investigator (PI) or research collaborator has obtained management permission or approval from the organisation with responsibility for the research participants at the site.

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2.3 The research should not commence at any NHS organisation in England and Wales until the site confirms their capacity and capability to undertake their role in the research (except when advised otherwise). Details of how capacity and capability should be confirmed are provided in the HRA /HCRW Approval letter.

2.4 The research should not commence at any NHS organisation in Northern Ireland or Scotland until the processes specific to each nation have been undertaken and the relevant management permissions have been issued.

2.5 Should the research not commence within 12 months of HRA/HCRW Approval, the sponsor should send a written explanation for the delay via e-mail to hra.approval@nhs.net or Research-permissions@wales.nhs.uk. A further written explanation should be sent after 24 months if the research has still not commenced.

2.6 If the research does not commence within 24 months, the HRA and HCRW may review the Approval status.

3. Registration

3.1 For health services research, registration is strongly recommended for reasons of transparency but it is not currently a condition of HRA/HCRW Approval.

4. Duration of HRA/HCRW Approval

4.1 Once issued, HRA/HCRW Approval generally applies for the duration of the research. The conclusion of the research is defined as the final date or event specified in the protocol, not the completion of data analysis or publication of the results. If it is proposed to extend the duration of the study beyond that specified in the application form, the HRA and HCRW should be notified.

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5. Working with participating NHS organisations in England and Wales

5.1 Unless specifically advised, CIs and sponsors should provide all necessary documentation and work in partnership with participating NHS organisations in England and Wales to assess, arrange and confirm that participating organisations have the capacity and capability to undertake the research. The study documents should be sent to both the local study team and the research management function of the participating organisation (e.g. the R&D office), and the Local Clinical Research Network (LCRN) where applicable. In certain cases, participating organisations will not be expected to confirm capacity and capability to participate and / or receive study documents. Such instances will be clearly indicated and explained the HRA/HCRW Approval letter.

5.2 Where some or all participating NHS organisations in England and Wales are not expected to provide formal confirmation of capacity and capability (see HRA/HCRW Approval letter for full details), the HRA and HCRW encourages the organisations to confirm by email to the CI and sponsor that the research may proceed in advance of the no-objection deadline.

5.3 Where formal confirmation of capacity and capability is expected, sponsors should arrange with participating NHS organisations in England and Wales to have an agreement in place which outlines the roles and responsibilities of each party. This agreement should be proportionate to the study type and study activities undertaken locally and may take the form of agreeing the content of a Statement of Activities (where this approach is agreed by the HRA and HCRW). Wherever model agreements are applicable, it is encouraged that unmodified templates are used. The fully executed agreement or Statement of Activities will be taken as confirmation that the organisation is ready to participate in the research. Confirmation of the type of agreement to be used in a study (or for different types of site in a study) is provided in the HRA/HCRW Approval letter.

5.4 There is no expectation for CIs, sponsors or principal investigators to complete or submit site level forms to participating NHS organisations in England or Wales. If asked to do so, the CI or sponsor 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 system.

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6. Amendments

6.1 If it is proposed to make an amendment to the research, the CI should email a notice of amendment to the HRA by email to hra.amendments@nhs.net or HCRW at Research-permissions@wales.nhs.uk (whoever is acting as the lead nation).

6.2 HRA/HCRW will categorise both substantial and non-substantial amendments in line with UK wide policy on the handling of amendments. Following categorisation the HRA or HCRW will confirm approval for the amendment by email. The amendment should not be implemented at NHS organisations in England or Wales until HRA/HCRW approval for the amendment has been issued.

7 Conclusion or early termination of the research

7.1 The sponsor should notify the HRA or HCRW in writing that the research has ended within 90 days of its conclusion. The conclusion of the research is defined as the final date or event specified in the protocol, not the completion of data analysis or publication of the results.

7.2 If the research is terminated early, the sponsor should notify the HRA or HCRW within 15 days of the date of termination. An explanation of the reasons for early termination should be given.

7.3 Reports of conclusion or early termination should be submitted in the form prescribed by the HRA.

8 Review of HRA/HCRW Approval

8.1 The HRA and HCRW may review the Approval status at any time in the light of any relevant information it receives.

8.2 The sponsor may at any time request that the HRA and HCRW reviews the Approval status, or seek advice from the HRA and HCRW on any issue relating to the research.

Lancaster University

Applicant: Sophie Valavanis
Supervisor: Ian Fletcher
Department: Health Research
FHMREC Reference: FHMREC18008

08 November 2018

Dear Sophie

Re: Individual Differences and Nurses' Attitudes towards Service-Users with a Psychiatric Diagnosis

Thank you for submitting your research ethics application for the above project for review by the Faculty of Health and Medicine Research Ethics Committee (FHMREC). The application was recommended for approval by FHMREC, and on behalf of the Chair of the Committee, I can confirm that approval has been granted for this research project.

As principal investigator your responsibilities include:

- ensuring that (where applicable) all the necessary legal and regulatory requirements in order to conduct the research are met, and the necessary licenses and approvals have been obtained;
- reporting any ethics-related issues that occur during the course of the research or arising from the research to the Research Ethics Officer at the email address below (e.g. unforeseen ethical issues, complaints about the conduct of the research, adverse reactions such as extreme distress);
- submitting details of proposed substantive amendments to the protocol to the Research Ethics Officer for approval.

Please contact me if you have any queries or require further information.

Tel:- 01542 593987
Email:- fhmresearchsupport@lancaster.ac.uk

Yours sincerely,

R E Case

Becky Case
Research Ethics Officer, Secretary to FHMREC.