

Relationships between nurses' empathy, self-compassion and dimensions of
professional quality of life: a cross-sectional study

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Abstract

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2 Background: Job stress and burnout are common among healthcare professionals, and
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4 nurses in particular. In addition to the heavy workload and lack of recourses, nurses are
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6 also confronted with emotionally intense situations associated with illness and
7
8 suffering, which require empathic abilities. Although empathy is one of the core values
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10 in nursing, if not properly balanced it can also have detrimental consequences, such as
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12 compassion fatigue. Self-compassion, on the other hand, has been shown to be a
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14 protective factor for a wide range of well-being indicators and has been associated with
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16 compassion for others.
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21 Objectives: The main goal of this study was to explore how empathy and self-
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23 compassion related to professional quality of life (compassion satisfaction, compassion
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25 fatigue and burnout). In addition, we wanted to test whether self-compassion may be a
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27 protective factor for the impact of empathy on compassion fatigue.
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31 Methods and Participants: Using a cross-sectional design, 280 registered nurses from
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33 public hospitals in Portugal's north and center region were surveyed. Professional
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35 quality of life (Professional Quality Of Life), empathy (Interpersonal Reactivity Index)
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37 and self-compassion (Self-compassion Scale) were measured using validated self-report
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39 measures.
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43 Results: Correlations and regression analyses showed that empathy and self-compassion
44
45 predicted the three aspects of professional quality of life. Empathic concern was
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47 positively associated with compassion satisfaction as well as with compassion fatigue.
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50 Mediation models suggested that the negative components of self-compassion explain
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52 some of these effects, and self-kindness and common humanity were significant
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54 moderators. The same results were found for the association between personal distress
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56 and compassion fatigue.
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Conclusions: High levels of affective empathy may be a risk factor for compassion fatigue, whereas self-compassion might be protective. Teaching self-compassion and self-care skills may be an important feature in interventions that aim to reduce burnout and compassion fatigue.

Keywords: empathy; compassion fatigue; nurses; professional quality of life; self-compassion.

Introduction

1
2 Empathy is a central aspect of healthcare, and has been associated with positive
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4 outcomes not only for the patient (e.g., Rakel et al., 2011; Hojat, Louis, & Markham,
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6 2011; Blatt, LeLacheur, Galinsky, Simmens, & Greenberg, 2010) but also for the
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8 healthcare professional (Thomas et al., 2007; Shanafel et al., 2005).
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11 However, given the constant exposure to highly distressing situations, such as
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13 illness, suffering and death, healthcare professionals are particularly vulnerable to the
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15 development of professional stress and compassion fatigue, especially if they are not
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17 able to effectively regulate their capacity to empathize and their empathic feelings
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19 (Decety, Chia-Yan, & Cheng, 2010).
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22 *Stress and burnout among nurses*

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24 Job stress and burnout are common in healthcare professionals (e.g., McCray,
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26 Cronholm, Bogner, Gallo, & Neill, 2008) and in nurses in particular (Sermeus et al.,
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28 2011; Dominguez-Gomez, & Rutledge, 2009). Several studies have reported that stress
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30 and burnout in healthcare professionals are associated with several physical and mental
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32 health problems, such as depression, anxiety and low self-esteem (e.g., Maslach,
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34 Schaufeli, & Leiter, 2001; Schulz et al., 2011). Stress and burnout also impact on
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36 professional effectiveness and has been associated with suboptimal patient care
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38 (Shanafelt et al., 2002), and self-reported medical errors (Wes et al., 2006).
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45 In addition to objective errors in care, stress and burnout may decrease
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47 compassion in the caregiver (Neumann et al., 2011; Nunes et al., 2011; Wilson et al.,
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49 2012), and impact on their relationship with patients (Ratanawongsa et al., 2008). Thus,
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51 it is not surprising that burnout has been associated with decreased patient satisfaction,
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53 suboptimal self-reported patient care, and longer patient-reported recovery times
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55 (Vahey et al., 2004; Shanafelt et al., 2002; Shapiro et al., 2005). A survey of intensive
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1 care unit nurses and physicians in Europe and Israel indicates that one fourth of those
2 surveyed report providing less than optimal care (Hand, 2011).
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4 Apart from the heavy workload and lack of resources that are important risk
5 factors for burnout (Maslach et al., 2001), healthcare providers are also confronted daily
6 with emotionally stressful situations associated with illness, suffering and dying, which
7 require empathic abilities.
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10 *Empathy*

11 There have been many definitions of empathy (see Batson, 2009). In general,
12 empathy is activated when observing or imagining another person's affective state
13 triggers an isomorphic affective response, and requires some differentiation of one's
14 own and the other's emotional states (see Batson, 2009; Singer & Leiberg, 2009).
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16 Current approaches converge to consider empathy not as a single ability but a complex
17 socio-emotional competency that encompasses different but interacting components
18 (e.g., Decety & Svetlova, 2012).
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21 Having an idea of the other person's thoughts, feelings and motives can be
22 considered the cognitive component of empathy. There are two main categories of
23 affective empathy responses to observing another person in pain. Self-oriented
24 responses are feelings of distress and anxiety when witnessing another's negative state
25 (personal distress), whereas other-focused responses are feelings that focus on the
26 wellbeing of the other person (empathic concern; Davis, 1983). These two types of
27 affective responses can have different motivational tendencies. Self-oriented feelings
28 will motivate the observer to reduce his/her own distress, whereas other-focused
29 feelings will motivate the observer to focus on the needs of the other and to provide care
30 (Batson, 1987).
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Empathy is particularly important in healthcare provider-patient relations, and is associated with improved patient satisfaction and compliance with recommended treatment (Epstein et al., 2007).

However, there can be costs associated with empathy (Hoges & Biswas-Diener, 2007). Literature suggests that being overly sensitive to others' suffering in the course of caring for patients experiencing trauma or pain can lead to deleterious effects, such as burnout or compassion fatigue (Figley, 2002; 2012). However, there are few empirical studies to date directly exploring such hypothesis.

Compassion

While empathy can be seen as double-edge sword, facilitating care but at the same time leaving the healthcare provider vulnerable to compassion fatigue, compassion may instead be a protective factor (Boellinghaus, Jones, & Hutton, 2012). Compassion appears to buffer the effects of stress on wellbeing (Poulin, Brown, Dillard, & Smith, 2013). Also, the other-oriented focus of the compassionate response may allow the observer to empathize with the other's suffering but without identifying with it, providing a self-other distinction which is essential to regulate personal distress feelings and to provide adequate care to the sufferer (Klimecki and Singer, 2012).

Research suggests that compassion can also be important for the successful treatment of patients. For example, in one study watching 40 seconds of compassionate communication from a provider on videotape was sufficient to reduce anxiety in breast cancer patients (Fogarty et al., 1999).

Self-compassion

Several studies have suggested that compassion for others is closely linked to self-compassion (Lindsay & Creswell, 2014; Welp & Brown, 2014; Neff & Pommier,

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2013. Self-compassion is simply compassion directed inward, relating to oneself as the object of care and concern when faced with the experience of suffering (Neff, 2003a).

Self-compassion, therefore, involves being touched by and open to one's own suffering, not avoiding or disconnecting from it, generating the desire to alleviate one's suffering and to heal oneself with kindness. Self-compassion also involves a non-judgmental understanding of one's pain, inadequacies and failures, so that one's experience is seen as part of the larger human experience (Neff, 2003a). The research literature consistently suggests that self-compassion is associated with fewer psychological symptoms and with indices of psychological well-being (MacBeth & Gumley, 2012). Self-compassionate people seem to have a more adaptive psychological profile, which may explain such findings. For example, self-compassion has been associated with lower levels of rumination (Raes, 2010; Johnson, & O'Brien, 2013; Odou, & Brinker, 2014), avoidance (Krieger, Altenstein, Baettig, Doerig, N., & Holtforth, 2013), suppression of unwanted thoughts and emotions, and with emotional validation skills (Leary, Tate, Adams, Allen, & Hancock, 2007; Neff, Hseih, Dejitterat, 2005). Self-compassion is also associated with positive psychological characteristics such as emotional intelligence, wisdom, life satisfaction, well-being and feelings of social connectedness (Neff, Rude, & Kirkpatrick, 2007; Neff, Kirkpatrick, & Rude, 2007; Neely, Schallert, Mohammed, Roberts, & Chen, 2009). Experimental studies confirmed some of these findings (e.g., Adams & Leary, 2007; Leary et al., 2007) and suggest that self-compassion can be enhanced and contribute to well-being and less psychological distress.

Moreover, self-compassion has been shown to improve interpersonal functioning. It is linked to such traits as more empathic concern, altruism, perspective-taking, and forgiveness of others (Neff & Pommier, 2013).

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Self-compassion could be helpful to healthcare professionals, and nurses in particular, because it may play an important role in maintaining their mental health and because of the emerging evidence that self-compassion is associated with compassion for others, which has been shown to have a significant impact on patient outcomes. Thus, developing self-compassion may be vital for preventing compassion fatigue and promoting compassionate care (Gustin & Wagner, 2013).

Although recent review papers argued for the importance of exploring self-compassion in healthcare professionals (Raab, 2014; Mills, Wand, & Fraser, 2015), so far no empirical studies have been published.

Compassion Fatigue

The concept of compassion fatigue was first introduced by Joinson (1992) to describe a state of reduced capacity for compassion as a consequence of being exhausted from dealing with the suffering of others (Figley, 2002; 2012; Sabo, 2006). The term compassion fatigue has been used interchangeably with secondary traumatic stress. It has been suggested that empathy for patients may be at the very root of compassion fatigue (Figley, 2002; Shultz et al., 2007). Nurses may be at particular risk for compassion fatigue because compassion and empathy are at the core of their work (Figley, 1995; Stebnicki, 2002).

Although healthcare providers are at risk of developing compassion fatigue, many do not. Rather, some healthcare providers are motivated by a sense of satisfaction derived from helping others also known as compassion satisfaction (Stamm, 2010), which enables them to engage in meaningful interactions with patients rather than withdrawing from them. Compassion fatigue and compassion satisfaction are opposite results from helping others and are intrinsic properties of healthcare providers' professional quality of life.

Objectives

1
2 In this study we aim to address issues and gaps in previous research by exploring
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4 the relations between self-compassion and empathy, and three aspects of quality of life:
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6 compassion satisfaction, burnout and compassion fatigue. The literature has been
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8 pointing that empathy is vital for the work of healthcare professionals. However, it has
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10 also been suggested that empathy may also be a vulnerability factor for the development
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12 of compassion fatigue. Thus, we hypothesize that empathic feelings will be negatively
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14 associated with burnout but positively associated with compassion fatigue and
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16 compassion satisfaction (Hypothesis 1a). Regarding the other empathy components, we
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18 hypothesize that perspective taking will be positively associated with compassion
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20 satisfaction and negatively associated with burnout and compassion fatigue (Hypothesis
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22 1b), and personal distress will be negatively associated with compassion satisfaction
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24 and positively associated with burnout and compassion fatigue (Hypothesis 1c). Based
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26 on previous research on the relation between self-compassion and mental health, it is
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28 hypothesized that self-compassionate individuals (i.e., high levels of self-kindness,
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30 mindfulness and common humanity, and low levels of self-judgment, over-
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32 identification and isolation) experience less burnout and compassion fatigue symptoms
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34 and more compassion satisfaction (Hypothesis 2). Finally, we wanted to explore the
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36 finding that empathic emotions are associated with compassion fatigue, and the role of
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38 self-compassion in this relationship. We hypothesize that self-compassion may mediate
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40 and/or moderate the relationship between empathy and compassion fatigue (Hypothesis
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42 3). We used a cross-sectional design to test these hypotheses.
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Methods

Participants and Procedures

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Participants were recruited from four public hospitals from Portugal's north and center regions, between February 2014 and February 2015. This was a convenience sample of hospitals. After approval of the hospitals' ethics committees, department chief nurses were directly contacted by the researcher who explained the study aims and the importance of participation. Department chief nurses were asked to advertise the study among the nurses in their services and to deliver and receive the questionnaire pack from those who agreed to participate. Around 46% of the questionnaires delivered were completed and returned to the researcher. The questionnaires were self-administered and were preceded by an information sheet about the study aims, the importance of participation, and confidentiality. In line with the ethical requirements, it was emphasized that participants' cooperation was voluntary and that their answers were confidential and would be used only for the purpose of this study. All participants provided their written informed consent. Permission was obtained to use the scales. This study is part of a larger study exploring the role of psychological factors on professional quality of life (see Acknowledgments). The second part of this study explores the impact of an intervention to reduce burnout and compassion fatigue. The Code of Ethics of the World Medical Association (Declaration of Helsinki) for experiments involving humans was followed.

Measures

Interpersonal Reactivity Index (IRI; Davis, 1983).

This scale measures several components of empathy, namely perspective taking (7 items; "I try to look at everybody's side of a disagreement before I make a decision"), empathic concern (7 items; "I often have tender, concerned feelings for people less fortunate than me"), personal distress (7 items; "I sometimes feel helpless when I am in the middle of a very emotional situation") and fantasy (6 items; "I really get involved

1 with the feelings of the characters in a novel.”). Perspective taking is considered a
2 cognitive component of empathy, while empathic concern and personal distress are
3 considered the affective component. These subscales should be used separately since
4 the instrument is not intended to measure global empathy. Respondents are instructed to
5 rate how well each statement describes them on a 5-point Likert scale (from 0 = Not
6 well to 4 = Very well). The scale was found reliable in past research (Davis, 1980) and
7 reliabilities for the scales in the Portuguese version were adequate: empathetic concern
8 $\alpha = .77$; perspective taking $\alpha = .74$; and personal distress $\alpha = .81$ and fantasy $\alpha = .83$
9 (Limpo, Alves & Castro, 2010). Cronbach’s alphas in this study were .67 for empathic
10 concern .74 for personal distress and .71 for perspective taking. The subscale “fantasy”
11 was not included as it was not relevant to the current study.
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26 Self-Compassion Scale (SCS; Neff, 2003b).

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29 The SCS is a widely used self-report measure developed to assess six
30 components of self-compassion: self-kindness (5 items; “I try to be understanding and
31 patient toward those aspects of my personality I don’t like”); self-judgment (5 items;
32 “I’m disapproving and judgmental about my own flaws and inadequacies”); common
33 humanity (4 items; “I try to see my failings as part of the human condition”); isolation
34 (4 items; “When I think about my inadequacies it tends to make me feel more separate
35 and cut off from the rest of the world”); mindfulness (4 items; “When something painful
36 happens I try to take a balanced view of the situation”); and over-identification (4 items;
37 “When I’m feeling down I tend to obsess and fixate on everything that’s wrong”). Items
38 are rated on a 5-point scale (e.g., 1 = almost never to 5 = almost always). Scores of the
39 six subscales can be summed (after reverse-coding negative items) to create an overall
40 self-compassion score. However, recent psychometric studies do not support the use of
41 a SCS total score as a measure of self-compassion (Lopez et al., 2015). In this study, we
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1 use the six factors separately. The SCS has adequate construct and convergent validity
2 (Neff, 2003b). The Portuguese version of the scale also showed good internal
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4 consistency and validity (Castilho, Pinto-Gouveia, & Duarte, 2015). SCS scores are
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6 presented so that higher scores indicate greater self-compassion. Cronbach's alphas for
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8 this study were: self-kindness = .79; self-judgment = .79; mindfulness = .78; over-
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10 identification = .80; common humanity = .70; isolation = .80; and total scale = .91.
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14 The Professional Quality of Life Scale, version 5 (ProQOL-5; Stamm, 2009).

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16 The ProQOL is a 30-item self-report measure comprised of three discrete
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18 subscales. The first subscale measures Compassion Satisfaction, defined as the pleasure
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20 derived from being able to do one's work (helping others) well (10 items; "I get
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22 satisfaction from being able to help people"). Higher scores on this scale represent
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24 greater satisfaction related to one's ability to be an effective caregiver. The second
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26 subscale measures burnout, or feelings of hopelessness and difficulties in dealing with
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28 work or in doing one's job effectively (10 items; "I feel worn out because of my work
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30 as a health care provider). The third subscale measures secondary traumatic stress,
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32 defined as work-related, secondary exposure to people who have experienced extremely
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34 or traumatically stressful events (10 items; "I feel depressed because of the traumatic
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36 experiences of the people I help"). Given that the terms 'compassion fatigue' and
37
38 'secondary traumatic stress' have been used interchangeably in the literature, we will
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40 use the term 'compassion fatigue' to refer to this factor. Higher scores on these two
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42 subscales indicate greater levels of burnout and compassion fatigue, respectively.
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50 Respondents are instructed to indicate how frequently each item was experienced in the
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52 previous 30 days, on a 5-item Likert scale (from 1 = never to 5 = very often). Scoring
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54 requires summing the item responses for each 10-item subscale. Cronbach's alphas for
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56 the sub-scales are reported as .88 for the compassion satisfaction scale, .75 for the
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1 burnout scale, and .81 for the compassion fatigue/secondary trauma scale (Stamm,
2 2010). The Portuguese version also showed good internal consistency ($\alpha = .86$ for the
3 compassion satisfaction scale, $\alpha = .71$ for the burnout scale, and $\alpha = .83$ for the
4 compassion fatigue/secondary trauma scale; Carvalho, 2011). In this study Cronbach's
5 alphas were .85 for compassion satisfaction, .74 for burnout and .73 for compassion
6 fatigue.

14 Statistical analysis

17 Descriptive statistics of the variables in study included means, standard
18 deviations, minimum and maximum scores, and skewness and kurtosis values. The
19 association between the variables was initially explored using Pearson's coefficient
20 correlations. Hierarchical multiple regressions were undertaken to explore the predictive
21 power of empathy and self-compassion variables on professional quality of life
22 (Hypotheses 1 and 2). Empathy variables were included in the first step of the
23 regression and self-compassion variables were entered in the second step. The
24 unstandardized coefficient (B), standard error (SE), standardized coefficient (β), t
25 statistic, p -value and 95% confidence intervals are reported. The strength of each
26 predictor variable was based on its standardized beta value (β), which represents to what
27 degree each predictor affects the outcome. To test hypothesis 3, the Hayes PROCESS
28 macro was used for moderator and mediator analyses (Hayes, 2013). For moderation,
29 this macro runs a series of ordinary least squares regressions with the centered product
30 term representing the interaction of empathy \times self-compassion as a predictor of the
31 outcome (compassion fatigue). Regarding mediation, direct and indirect effects were
32 computed using a series of ordinary least squares regressions and the bootstrapping
33 procedure (Preacher & Hayes, 2004; Preacher & Hayes, 2008). The significance of the
34 indirect effect, based on the 95% confidence interval (CI) derived from 1,000 bootstrap
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1 resamples, is indicated when the CI values do not cross zero. The Bootstrap is helpful
2 because total and indirect effects are often not multivariate normally distributed
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4 (Preacher & Hayes, 2008). We report the unstandardized coefficient (*B*) and standard
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6 error (*SE*) for each regression equation to indicate the predicted change in the dependent
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8 variable given a one-unit change in the independent variable, while controlling for the
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10 other variables in the equation. We also report *t* statistic, *p*-value and 95% confidence
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12 intervals. Statistical significance was set at .05 and IBM SPSS version 22 was used for
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14 all analyses.
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19 Results

20 21 Sample Profile

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24 A total of 280 registered nurses from different clinical services in Portugal
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26 participated in the study. This sample had a mean age of 37.66 (*SD* = 9.34), ranging
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28 between 22 and 60; the majority of participants were female (*n* = 227; 81.1%) and
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30 married (*n* = 160; 57.1%). Also, the mean years of schooling was 15.90 (*SD* = 2.14)
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32 indicating that the average education level is university. Participants reported a mean
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34 years of practice of 14.74 (*SD* = 9.30).
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38 Descriptive statistics

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41 Descriptive statistics for the study variables are presented in Table 1. As the
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43 table reveals, nurses reported self-compassion scores that were slightly above the
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45 midpoint (3.22, by dividing the self-compassion score by the number of items) which is
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47 in accordance with previous studies (e.g., Neff & Pommier 2013). Mean values for
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49 professional quality of life scales were also similar to previous studies with nurses (e.g.,
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51 Sekol & Kim, 2014), as were mean values for the empathy components (e.g.,
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53 Gleichgerrcht & Decety, 2013).
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Table 1

Means, Standard Deviations, Minimum, Maximum, Skewness and Kurtosis of the Study

Variables (N = 280)

	<i>M</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>	<i>Skew</i>	<i>Kurtosis</i>
Compassion Satisfaction (ProQOL)	38.11	5.09	22	49	-.22	.20
Burnout (ProQOL)	25.01	5.12	12	44	.17	.43
Compassion Fatigue (ProQOL)	25.31	4.84	14	42	.30	.21
Empathic Concern (IRI)	17.34	3.50	6	24	-.08	-.28
Personal Distress (IRI)	9.24	4.19	0	20	-.08	-.32
Perspective Taking (IRI)	16.70	3.31	6	24	-.15	.07
Self-kindness (SCS)	15.10	3.25	5	25	-.03	.75
Self-judgment (SCS)	13.96	3.51	5	25	.15	.60
Mindfulness (SCS)	13.17	2.50	4	20	.02	.89
Over-identification (SCS)	10.95	3.03	4	20	.26	-.05
Common Humanity (SCS)	12.99	2.61	4	20	-.15	.24
Isolation (SCS)	10.61	2.96	4	20	.23	.36
Total score (SCS)	83.74	13.12	32	125	-.30	1.42

Note. ProQOL = Professional Quality of Life; SCS = Self-compassion Scale; IRI =

Interpersonal Reactivity Index

Correlational Analysis

Pearson's coefficient correlations are presented in Table 2. As expected, compassion satisfaction was positively associated with empathic concern and perspective taking and negatively associated with personal distress. More compassion satisfaction was also associated with higher levels of self-kindness, mindfulness and

1 common humanity and lower levels of self-judgment and isolation. In contrast, burnout
2 was positively associated with personal distress and negatively associated with
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4 empathic concern and perspective taking. More burnout was also associated with lower
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6 levels of self-kindness, mindfulness and common humanity, and higher levels of self-
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8 judgment, over-identification and isolation. Compassion fatigue was positively
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10 associated with personal distress and empathic concern. More compassion fatigue was
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12 associated with lower levels of mindfulness and higher levels of self-judgment, over-
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14 identification and isolation. We also found significant associations between empathy
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16 and self-compassion. Specifically, we found that perspective taking was positively
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18 associated with self-kindness, mindfulness and common humanity but there were no
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20 significant associations with the negative components of self-compassion. Personal
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22 distress was negatively associated with the positive components of self-compassion and
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24 positively associated with the negative components. Empathic concern showed a more
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26 mixed pattern. We found positive associations with self-judgment, over-identification,
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28 isolation and with common humanity.
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Table 2

Correlations Between Compassion Satisfaction, Burnout, Compassion Fatigue, Self-compassion and Empathy (N = 280)

	1	2	3	4	5	6	7	8	9	10	11	12
1. Compassion Satisfaction (ProQOL)	-											
2. Burnout (ProQOL)	-.58**	-										
3. Compassion Fatigue (ProQOL)	-.04	-.58**	-									
4. Self-kindness (SCS)	.34**	-.34**	-.09	-								
5. Self-judgment (SCS)	-.16**	.38**	.36**	-.38**	-							
6. Mindfulness (SCS)	.37**	-.35**	-.14**	.67**	-.33**	-						
7. Over-identification (SCS)	-.11	.30**	.36**	-.36**	.72**	-.43**	-					
8. Common Humanity (SCS)	.30**	-.19**	.04	.48**	-.07	.59**	-.09	-				
9. Isolation (SCS)	-.18**	.37**	.34**	-.38**	.70**	-.44**	.80**	-.17**	-			
10. Self-compassion Total (SCS)	.32**	-.44**	-.30**	.74**	-.76**	.76**	-.79**	.51**	-.81**	-		
11. Empathic concern (IRI)	.41**	-.19**	.18**	-.01	.15*	.01	.24**	.21**	.13*	-.08	-	
12. Personal distress (IRI)	-.22**	.18**	.21**	-.29**	.26**	-.35**	.37**	-.12*	.35**	-.39**	.12	-
13. Perspective taking (IRI)	.32**	-.15*	-.03	.24**	.01	.35**	.02	.34**	-.02	.19**	.41**	-.10

Note. * $p \leq .05$; ** $p < .01$; ProQOL = Professional Quality of Life; SCS = Self-compassion Scale; IRI = Interpersonal Reactivity Index

Regression Analysis

Several hierarchical multiple regression models were tested to explore the predictive power of empathy and self-compassion variables on compassion satisfaction, compassion fatigue and burnout. Results are presented in Table 3.

Empathy variables explained 26% of the variance of compassion satisfaction, $F(3, 276) = 31.64, p < .001$, and the best predictor was empathic concern, based on β values. For compassion fatigue, empathy variables explained 8% of the variance, $F(3, 276) = 7.76, p < .001$, and the best predictor was also empathic concern. Finally, empathy variables explained 8% of the variance of burnout, $F(3, 276) = 8.21, p < .001$, which was predicted equally by empathic concern (negatively) and personal distress (positively). These results generally support hypotheses 1a, 1b and 1c, and suggest that empathy variables seem to have a more evident contribution for compassion satisfaction.

Self-compassion variables explained 17% of the variance of compassion satisfaction, $F(6, 276) = 9.30, p < .001$, and the only significant predictor was mindfulness. Self-compassion variables explained 22% of the variance of burnout, $F(6, 276) = 12.71, p < .001$, and self-judgment, isolation and mindfulness (negatively) were significant predictors. Self-compassion variables explained 16% of the variance of compassion fatigue, $F(6, 276) = 8.80, p < .001$, and the only significant predictor from all the other variables considered was self-judgment. These results support hypothesis 2.

Table 3.

Multiple Regression Analysis Summary for Empathy and Self-Compassion Variables Predicting Compassion Satisfaction, Compassion Fatigue and Burnout (N = 280)

B	SE	β	t	p	95% CI
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Compassion Satisfaction (ProQOL)						
Perspective Taking (IRI)	0.21	0.09	.13	2.32	.021	[0.03, 0.38]
Empathic Concern (IRI)	0.56	0.08	.39	6.69	<.001	[0.40, 0.73]
Personal Distress (IRI)	-0.30	0.06	-.25	-4.70	<.001	[0.43, 0.18]
Mindfulness (SCS)	0.48	0.18	.24	2.72	.006	[0.13, 0.83]
Compassion Fatigue (ProQOL)						
Empathic Concern (IRI)	0.27	0.09	.20	3.08	.002	[0.10, 0.45]
Personal Distress (IRI)	0.21	0.07	.18	3.10	.002	[0.08, 0.35]
Self-judgment (SCS)	0.26	0.12	.19	2.25	.025	[0.03, 0.50]
Burnout (ProQOL)						
Empathic Concern (IRI)	-0.29	0.09	-.20	-3.05	.003	[0.47, 0.10]
Personal Distress (IRI)	0.24	0.07	.20	3.38	.001	[0.10, 0.39]
Self-Judgment (SCS)	0.35	0.12	.24	2.95	.003	[0.12, 0.59]
Isolation (SCS)	0.33	0.16	.19	2.02	.043	[0.01, 0.66]
Mindfulness (SCS)	-0.38	0.17	-.19	-2.20	.028	[-0.72, -0.04]

Note. Only significant results are presented; CI = confidence intervals for *B*; ProQOL =

Professional Quality of Life; SCS = Self-compassion Scale; IRI = Interpersonal Reactivity

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Mediation and moderation analyses

Results so far suggest that eliciting empathic emotions towards others and trying to understand their thoughts and feelings seem to be beneficial as they lead to compassion satisfaction. How is it that these feelings may also lead to severe negative consequences, such as compassion fatigue? This question was addressed by examining nurses' trait self-compassion as a possible mediator/moderator between affective empathy and compassion fatigue.

1 To test hypothesis 3, we ran several models in which empathic concern/personal
2 distress were the dependent variables, compassion fatigue the outcome variable, and
3 self-compassion components as the proposed mediators and/or moderators.
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6 *Empathic Concern*

7 *Model 1*

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9 Results suggested that the negative components of self-compassion significantly
10 mediated the relation between empathic concern and compassion fatigue. Specifically,
11 we found significant indirect effects for self-judgment, $B = 0.07$, $BootSE = 0.04$, $BootCI$
12 $[0.01 - 0.15]$, isolation, $B = 0.06$, $BootSE = 0.04$, $BootCI [0.03 - 0.15]$, and over-
13 identification, $B = 0.11$, $BootSE = 0.04$, $BootCI [0.05 - 0.21]$.
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24 *Model 2*

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26 Results supported our hypothesis and indicated that self-kindness was a
27 significant moderator between empathic concern and compassion fatigue, $B = -0.05$, SE
28 $= 0.02$; $t = -2.20$, $p = .029$, $CI [-0.10 - -0.01]$. An analysis of the conditional effect of
29 empathic concern on compassion fatigue at different levels of the moderator (self-
30 kindness) suggests that at higher levels of self-kindness the relation between empathic
31 concern and compassion fatigue was non-significant, $B = 0.07$, $SE = 0.12$; $t = 0.60$, $p =$
32 $.552$, $CI [-0.16 - 0.30]$, but was significant at lower levels, $B = 0.40$, $SE = 0.10$; $t = 3.80$,
33 $p < .001$, $CI [0.19 - 0.60]$.
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46 Similar results were found for common humanity. Results indicated that
47 common humanity was a significant moderator between empathic concern and
48 compassion fatigue, $B = -0.05$, $SE = 0.03$; $t = -1.94$, $p = .050$, $CI [-0.10 - -0.00]$. At
49 higher levels of common humanity the relation between empathic concern and
50 compassion fatigue was non-significant, $B = 0.12$, $SE = 0.11$; $t = 1.17$, $p = .243$, $CI [-$
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0.09 - 0.33], but was significant at lower levels, $B = 0.38$, $SE = 0.11$; $t = 3.59$, $p < .001$,
CI [0.17 - 0.59].

Personal Distress

Model 3

Results suggested that the negative components of self-compassion significantly mediated the relation between personal distress and compassion fatigue. We found significant indirect effects for self-judgment, $B = 0.10$, $BootSE = 0.03$, $BootCI [0.05 - 0.17]$, isolation, $B = 0.12$, $BootSE = 0.04$, $BootCI [0.06 - 0.20]$, and over-identification, $B = 0.14$, $BootSE = 0.04$, $BootCI [0.07 - 0.23]$.

Model 4

Results indicated that common humanity was a significant moderator between personal distress and compassion fatigue, $B = -0.05$, $SE = 0.02$; $t = -2.22$, $p = .027$, $CI [-0.10 - -0.01]$. At higher levels of common humanity the relation between personal distress and compassion fatigue was non-significant, $B = 0.11$, $SE = 0.09$; $t = 1.19$, $p = .235$, $CI [-0.07 - 0.30]$, but was significant at lower levels, $B = 0.39$, $SE = 0.09$; $t = 4.31$, $p < .001$, $CI [0.21 - 0.57]$.

Discussion

Repeated exposure to the suffering of others in healthcare professionals may be associated with the adverse consequences of personal distress, burnout and compassion fatigue, which are detrimental to their wellbeing. By the very nature of their work, healthcare professionals encounter people with various injuries and suffering in their everyday practice. In this case, being overly sensitive to others' suffering and pain may be detrimental and cause several negative effects, such as compassion fatigue (Figley, 2002; 2012). Although the potentially negative effects of being empathic have been previously described in the literature, few studies directly tested this hypothesis.

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Furthermore, components of empathy are rarely examined in applied research. In addition, despite the proven benefits of compassion for self and others, there were no studies to our knowledge exploring self-compassion in healthcare professionals, and particularly nurses.

In line with hypotheses 1 and 2, results from hierarchical multiple regressions suggested that empathy and self-compassion components significantly predicted changes in compassion satisfaction, compassion fatigue and burnout.

Specifically, we found that perspective taking (positively), empathic concern (positively), personal distress (negatively) and mindfulness (positively) were closely associated with compassion satisfaction. In a previous study similar results were found for the empathy variables (Gleichgerrcht & Decety, 2013). This indicates that empathic feelings of concern for others in distress, with an understanding that those feelings are different from one's own, and the ability to hold negative experiences in mindful awareness, seem to contribute to the positive experiences that come from caring for others. This is an interesting finding, which is in accord with the literature on the benefits of caregiving (e.g., Brown & Brown, 2006). Also, it stresses the importance of certain minimum levels of empathy, given that by not having them nurses may be losing the positive outcome of helping their patients, namely, compassion satisfaction.

On the contrary, we found that personal distress (positively), empathic concern (negatively), self-judgment, isolation and over-identification (positively), were associated with burnout. Personal distress (positively), empathic concern (positively), and self-judgment (positively) were also associated with compassion fatigue. In other words, negative self-oriented emotions elicited by others' distress, a tendency to be self-critical and to feel cut off from others when in distress and over-identification with negative experiences can lead to burnout and compassion fatigue. These results are in

1 line with a previous study on the association between empathy and negative aspects of
2 professional quality of life (Gleichgerrcht & Decety, 2013), and with the literature on
3 the effects of self-compassion on well-being (e.g., MacBeth & Gumley, 2012).
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7 In line with hypothesis 1a, empathic concern predicted more compassion
8 satisfaction and more compassion fatigue, and less burnout. This is an interesting
9 finding and supports previous literature that beyond a certain level empathic feelings
10 and sensibility to others' suffering may be a vulnerability factor for the development of
11 compassion fatigue (Figley, 2002; 2012), but not burnout (Lamothe, Boujut, Zenasni, &
12 Sultan, 2014), but at the same time may promote positive clinical outcomes
13 (Gleichgerrcht & Decety, 2013).
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17 Perspective taking only predicted compassion satisfaction, but not compassion
18 fatigue or burnout. In a previous study with general practitioners, perspective taking
19 was found to be negatively associated with burnout (Lamothe, et al., 2014).
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23 Results so far seem to support the idea that nurses may be at particular risk of
24 developing compassion fatigue, perhaps because they constantly witness the suffering
25 and pain of others. Thus, nurses and healthcare professionals in general may need to
26 regulate their capacity to empathize with their patients so that their emotional reaction
27 does not interfere with their treatment nor impact their wellbeing. Without regulatory
28 mechanisms it is likely that healthcare professionals would experience personal distress
29 when facing other people in pain which can impact on their ability to treat (Decety,
30 Yang, & Cheng, 2010). We hypothesized that self-compassionate individuals would be
31 more able to regulate their negative states and thus experience less compassion fatigue.
32 Results from mediation and moderation models generally confirmed hypothesis 3. We
33 found that all negative components of self-compassion (self-judgment, isolation and
34 over-identification) were significant mediators of the relation between empathic
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1 concern/personal distress and compassion fatigue. These results suggest that individuals
2 that are particularly harsh and critical of themselves, who feel isolated and cut off from
3 others when considering their own struggles and failures, and who feel overwhelmed
4 and carried away by their negative emotional reactions and thoughts may be more
5 vulnerable to develop compassion fatigue when they experience empathic and
6 distressing feelings. Also, we found that the positive components of self-compassion
7 (self-kindness and common humanity) significantly moderated the relation between
8 empathic concern/personal distress and compassion fatigue. That is, for individuals who
9 are able to be caring, supportive and understanding towards themselves, particularly
10 when faced with suffering or failure, and who feel interconnected with other people,
11 there is no link between their empathic and distress feelings and compassion fatigue.
12 Several mechanisms may help explain such findings. On one hand, self-compassionate
13 people may have psychological characteristics that make them more able to regulate
14 their emotions. In previous studies it was found that self-compassion was associated
15 with less rumination (Raes, 2010; Johnson, & O'Brien, 2013; Odou, & Brinker, 2014),
16 avoidance (Krieger, Altenstein, Baettig, Doerig, N., & Holtforth, 2013) and suppression
17 (Leary, Tate, Adams, Allen, & Hancock, 2007) and with more emotion validation
18 (Leary, Tate, Adams, Allen, & Hancock, 2007; Neff, Hseih, Dejitterat, 2005; Neff et al.,
19 2007). So, it may be that these psychological characteristics that have been associated
20 with self-compassion may render individuals more resilient and less vulnerable to the
21 potential negative impact of empathic feelings. Thus, when witnessing others' suffering
22 or in pain self-compassionate nurses seem to be able to regulate their empathic feelings
23 in a way that reduces its negative impact, presumably by accepting distressful feelings
24 with kindness and holding negative experiences in mindful awareness rather than
25 judging and identifying with them.

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On the other hand, self-compassionate people may be more other-focused when witnessing others in pain and suffering. In previous studies it was found that self-compassion was associated with compassion for others (Lindsay & Creswell, 2014; Welp & Brown, 2014; Neff & Pommier, 2013). Klimecki and Singer (2012) argue that compassion for others can protect against the risk of burnout and compassion fatigue. The authors propose that the other-oriented focus of the compassionate response prevents identification with the suffering of others and allows for regulation of negative feelings cause by the empathic response. In this case, the healthcare professional responds with feelings of love and concern and is motivated to provide care and assistance. However, empathy can also lead to personal or empathic distress. In this case, the empathizer is overwhelmed by the experience of negative emotions because there is an identification with the suffering of others. As a consequence, the empathizer will be motivated not to provide help but instead to try to reduce these negative feelings and withdraw from the distressful situation. These findings have been supported by data from cognitive neuroscience (Lamm, Batson, & Decety, 2007; Klimecki, Leiberg, Lamm, & Singer, 2012) and other empirical studies (e.g., Batson, Fuktz, & Shoenrade, 1987). This distinction has lead Klimecki and Singer (2012) to propose that ‘compassion fatigue’ could more helpfully be thought of as ‘empathetic distress fatigue’, because compassion as defined in this context can actually be protective of burnout and compassion fatigue. Thus, when witnessing others’ suffering or pain self-compassionate nurses may be more able to adopt an other-focused perspective which prevents their empathic feelings from turning into personal distress and compassion fatigue.

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In sum, several important findings can be drawn from this study. First, this is the first study reporting a positive association between empathic feelings and compassion

1 fatigue in nurses, although this hypothesis has been described in the literature. Second,
2 this is also the first study to explore how trait self-compassion relates to different
3 aspects of professional quality of life. Finally, although suggested previously (Raab,
4 2014) this study offers the first empirical evidence that self-compassion may be an
5 essential skill to prevent nurses from developing burnout and compassion fatigue.
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11 Implications

12 Although empathy is a key component in nurse-patient relationship, results from
13 this study suggest that being overly sensitive to others' pain and suffering may have
14 deleterious effects on caregivers' mental health, which can limit their ability to provide
15 effective care. This is particularly so when nurses lack self-compassionate abilities. This
16 suggests that training in self-compassion might be valuable to avoid compassion fatigue
17 and to promote compassion satisfaction. Given the close link between self-compassion
18 and compassion for others, such training could also promote compassionate care which
19 has been shown to have a great impact not only on professionals' wellbeing but also on
20 patients' health outcomes. Mindfulness-based interventions have been shown to be an
21 effective way not only develop self-compassion (e.g., Birnie, Speca, & Carlson, 2010;
22 Tirsch, 2010), but also compassion for others (Wallmark, Safarzadeh, Daukantaitė &
23 Maddux, 2013). A recent review suggests that mindfulness-based interventions can
24 increase self-compassion and other-focused concern in healthcare professionals
25 (Boellinghaus et al., 2012). Also, some studies have provided evidence that such
26 interventions may be particularly effective to reduce burnout in nurses (e.g., Mackenzie,
27 Poulin, & Seidman-Carlson, 2006; Cohen-Katz et al., 2005).
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52 Limitations

53 Although these findings are notable, several limitations should be taken into
54 account. First, the cross-sectional nature of this study does not allow causality
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1 inferences to be drawn between empathy and self-compassion and professional quality
2 of life. Also, in the mediation and moderation models there were still significant direct
3 effects between empathy and compassion fatigue suggesting that other variables may
4 have a potential role in this relationship. The sample size was small and participants
5 were mainly women, which limits the generalizability of this findings. In addition, we
6 used a convenience sample of hospitals and nurses which, by being a nonprobability
7 sampling method, may not adequately represent the population. Finally, the data was
8 derived entirely through self-report measures and thus is subject to the limitations
9 associated with this type of methodology (e.g., social desirability). Research that is not
10 solely based on self-report measures (e.g., experimental manipulations) would further
11 enhance the understanding of the complex relations between empathy, self-compassion
12 and professional quality of life. Reliability and validity of such measures was assessed
13 only with Cronbach's alpha. Although this is a widely used estimate of internal
14 consistency, it suffers from several limitations (e.g., Sijtsma, 2009). The lack of other
15 reliability/validity estimates is a limitation of this study.

36 Conclusion

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39 Nurses face the challenge of finding the balance that allows them to resonate
40 with patients' suffering without becoming emotionally overinvolved in a way that might
41 lead to burnout and compassion fatigue. This study's findings suggest that teaching self-
42 compassion and self-care skills, i.e., a tendency to be kind and understanding towards
43 oneself, to feel interconnected with other people and to hold negative experiences with
44 mindful awareness, may be an important feature in nursing educational interventions
45 that aim to reduce burnout and compassion fatigue.
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