

Empathy and feelings of guilt experienced by nurses: a cross-sectional study of their role in  
burnout and compassion fatigue symptoms

## Abstract

**Aims:** The main goal of this study was to explore the relationships between empathy, empathy-based pathogenic guilt and professional quality of life (burnout and compassion fatigue). We aim to test a model in which we hypothesize that when empathic feelings are related to pathogenic guilt, burnout and compassion fatigue symptoms may be increased.

**Background:** Empathy is at the core of nursing practice, and has been associated with positive outcomes not only for the healthcare provider but also for the patient. However, empathy is also at the core of guilt feelings that, when excessive and misdirected, can lead to pathogenic guilt beliefs. We focused on two types of empathy-based guilt characterized by excessive responsibility over others' well-being and how these can be related to professional quality of life.

**Methods and Participants:** This study is a cross-sectional self-report survey. Data were collected during 2014 and 2015. 298 nurses from public hospitals in Portugal's north and center region were surveyed. Professional quality of life (ProQoL), empathy (IRI), and empathy-based guilt (IGQ) were measured using validated self-report measures.

**Results:** Correlation analyses showed that empathy-based guilt was positively associated with empathy, and with burnout and compassion fatigue. Results from multiple mediation models further indicated when empathy is associated with empathy-based guilt, this leads to greater levels of burnout and compassion fatigue.

**Conclusions:** Given the nature of their work, proneness to experience pathogenic guilt feelings may compromise nurses' well-being, and this should be addressed in training programs aiming at preventing or treating burnout and compassion fatigue.

**Keywords:** empathy; empathy-based guilt; compassion fatigue; burnout; nurses.

## Introduction

Empathy is a central aspect of healthcare. It has been associated with positive outcomes for the patient, such as patient satisfaction, compliance to treatments and improved health (e.g., Blatt *et al.* 2010; Del Canale *et al.* 2012; Epstein *et al.* 2007, Hojat *et al.* 2011, Raker *et al.* 2011). Being empathic has also a positive impact upon the healthcare provider who can be more effective and provide better care (Di Blasi *et al.* 2001), experience more well-being and less distress (Thomas *et al.* 2007; Shanafel *et al.* 2005), and is less likely to experience burnout (e.g., Lamothe *et al.* 2014; Gleichgerricht & Decety 2013).

There have been many definitions of empathy (see Batson 2009). Current approaches informed by findings from social neuroscience suggest that empathy is not a single ability but a complex socio-emotional competency that includes different but interacting components (e.g., Decety & Svetlova 2012). A widely used measure of empathy by Davis (1983) proposed four components of empathy. Fantasy was defined as being able to transpose oneself (imaginatively) into the feelings of a fictional character. Perspective taking was defined as the ability to place oneself in another's shoes and understand his or her point of view. These two dimensions have come to be regarded as the cognitive components of empathy. Empathic concern was defined as feelings of care about the welfare of others and becoming upset over their misfortunes. Personal distress was defined as feelings of distress and anxiety when witnessing another's negative state. These two dimensions are considered the affective components of empathy. In contrast to the prosocial effects of perspective taking and empathic concern, personal distress does not appear to have positive effects on personal relations.

Previous theoretical and empirical work (e.g., Hoffman 2000, Leith & Baumeister 1998) suggests that empathy is closely related to guilt, so that more empathic people are more likely to experience guilt than less empathic people.

Empathy-based guilt, often nonpathogenic, is necessary in many social situations. Our ability to respond to one another with empathy, to experience guilt when we believe we have harmed another, or simply when we perceive inequity, allows us to overcome many common social conflicts that might, without empathy-based guilt, undermine our relationships. Empathy-based guilt becomes pathogenic when it leads to cognitive errors in understanding causality. When people who feel empathy at witnessing another's suffering falsely believe they cause others' problems, or falsely believe that they have the means to relieve the person of suffering, they have erred in their analysis of the situation. Pathogenic guilt is thus associated with incorrect explanations of causality and can result in maladaptive outcomes, such as psychopathology and pathological acts of altruism (O'Connor *et al* 2012).

We particularly focused on survivor guilt and omnipotence guilt, both of which involve an exaggerated sense of responsibility for others. Survivor guilt can be seen as an extreme symptom of a more general pattern in which people feel guilty over positive inequities, and this general pattern would presumably be extremely beneficial for promoting fair, equitable, and hence strong and durable relationships (Baumeister *et al.* 1994). Although the term was originally coined to describe the guilt people feel when someone else dies, it broadly defines the feeling people may experience for "surviving" harm while others do not, with erroneous beliefs that in some way one is responsible or contributed to that harm. Omnipotent responsibility guilt also arises out of empathy and involves an exaggerated sense of responsibility and concern for the happiness and well-being of others, even in instances where one has no power to change another's situation (O'Connor *et al.* 1997).

Adaptive guilt, which concerns feeling anxious and distressed about real and specific wrongful behaviors and the desire to make reparation, is associated with good social adjustment and healthy personality development (Tangney 1991, Zahn-Waxler & Kochanska 1990). In contrast, survivor guilt and omnipotent responsibility guilt have been empirically

associated with several psychopathology indicators (e.g., O'Connor *et al.* 1999, Locke *et al.* 2015).

In certain jobs where one is responsible for others' lives and well-being, such as nursing, guilt can be especially acute when things go wrong. However, few studies to date explored the impact of feelings of guilt in nurses' well-being. In a previous qualitative study exploring the experience of witnessing trauma and suffering among acute care nurses, there was a common experience of feeling guilty that bad things were happening to people who didn't deserve to be sick, which added an extra layer to the nurses' workplace stress (Walsh & Buchanan 2011). We hypothesize that nurses who are more prone to experience pathogenic empathy-based guilt (e.g., survivor and omnipotent guilt) may be particularly vulnerable to symptoms of burnout and compassion fatigue.

#### Aims

In this study we set out to explore the complex relationships between empathy and guilt, and how these can be related to professional ill-health. Understanding the pathways between empathy, which is an inherent part of the nursing profession, and burnout and compassion fatigue symptoms remains largely unclear. Although empathic engagement is positively related to indices of job satisfaction and thus is a possible protective factor it may also leave healthcare providers more vulnerable to the negative effects of trauma exposure (Figley, 1995; Jenkins & Baird 2002). Given the close relation between empathy and guilt, we hypothesize that, in a job where one is responsible for others' lives, proneness to experience excessive feelings of guilt may be particularly problematic and can be possible link between empathy and burnout/compassion fatigue. Specifically, we aim to test a model in which we hypothesize that pathogenic empathy-based guilt mediates the association between empathy and burnout/compassion fatigue symptoms. Understanding these relationships in more depth

is important to providing nurses with targeted support for preventing and treating burnout and compassion fatigue.

## Method

### Design

A descriptive, correlational, cross-sectional study design was used to investigate the relationships among empathy, empathy-based guilt and professional quality of life in nurses recruited from public hospitals in central and northern Portugal, using a non-probability based sampling method. Self-report questionnaires were used to test the study's aims.

### Participants

A convenience sample of nurses was recruited from five public hospitals in Portugal. Exclusion criteria included respondents who were non-nurses, nurse managers, educators, or researchers with no direct patient care activities.

### Data collection

Data was collected between 2014 and 2015. After approval of hospitals' ethics committees, department chief nurses were 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. The questionnaire included an information sheet about explaining the study aims, the importance of participation, and confidentiality.

### Measures

*The Professional Quality of Life Scale, version 5* (ProQOL-5; Stamm 2010). The ProQOL is a 30-item self-report measure composed by three discrete subscales. The first subscale measures Compassion Satisfaction (CS), defined as the pleasure derived from being able to do one's work (helping others) well (e.g., "I get satisfaction from being able to help

people”). The second subscale measures burnout (BO), or feelings of hopelessness and difficulties in dealing with work or in doing one’s job effectively (e.g., “I feel worn out because of my work as a health care provider). The third subscale measures secondary traumatic stress (STS), defined as work-related, secondary exposure to people who have experienced extremely or traumatically stressful events (e.g., “I feel depressed because of the traumatic experiences of the people I help”). We will use the term ‘compassion fatigue’ to refer to this factor. Respondents are instructed to indicate how frequently each item was experienced in the previous 30 days, on a 5-item Likert scale (from 1 = never to 5 = very often). Scoring requires summing the item responses for each 10-item subscale. The subscale compassion satisfaction was not included in this study.

*Interpersonal Reactivity Index (IRI; Davis 1983).* This scale measures perspective taking (7 items; e.g., “I try to look at everybody's side of a disagreement before I make a decision”), empathic concern (7 items; e.g., “I often have tender, concerned feelings for people less fortunate than me”), personal distress (7 items; e.g., “I sometimes feel helpless when I am in the middle of a very emotional situation”) and fantasy (6 items; “I really get involved with the feelings of the characters in a novel.”). Perspective taking is considered a cognitive component of empathy, while empathic concern and personal distress are considered the affective component. Respondents are instructed to rate how well each statement describes them on a 5-point Likert scale (from 0 = not well to 4 = very well). The subscale “fantasy” was not included as it was not relevant to the current study.

*Interpersonal Guilt Questionnaire-67 (IGQ-67; O’Connor et al. 1997).* The IGQ-67 is a self-report measure that uses Likert scales to assess pathogenic empathy-based guilt. It includes four subscales, but for the purpose of this study only two subscales were used: Survivor Guilt, defined as the belief that pursuing normal goals will harm others (e.g., "It makes me very uncomfortable to receive better treatment than the people I am with");

Omnipotence Responsibility Guilt, defined as the belief that one is responsible for the happiness and well-being of others (e.g., "I often find myself doing what someone else wants me to do rather than doing what I would most enjoy").

#### Ethical considerations

The study was approved by the hospitals' ethics committees. 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. The Code of Ethics of the World Medical Association (Declaration of Helsinki) for experiments involving humans was followed.

#### Data analysis

Descriptive statistics of the variables in study included means, standard deviations, minimum and maximum scores, and skewness and kurtosis values. The association between the variables was initially explored using Pearson's coefficient correlations. Multiple mediation analyses with bootstrap methods were conducted using the Hayes PROCESS macro for SPSS (Hayes 2013). In this macro, direct and indirect effects are estimated using a series of ordinary least squares (OLS) regressions and the bootstrapping procedure (Preacher & Hayes 2004, 2008). The significance of the indirect effect, based on the 95% confidence interval (CI) derived from 5,000 bootstrap resamples, is indicated when the CI values do not cross zero. The Bootstrap is adequate when total and indirect effects are not multivariate normally distributed (Preacher & Hayes, 2008). We report the unstandardized coefficient (*B*) and standard error (*SE*) for each regression equation to indicate the predicted change in the dependent variable (DV), given a one-unit change in the independent variable, while controlling for the other variables in the equation. Statistical significance was set at .05 and IBM SPSS version 23 was used for all analyses.



## Validity and reliability

This study used previously validated and reliable self-report measures. Regarding the ProQOL, internal consistency estimates for the original sub-scales are reported as .88 for the compassion satisfaction scale, .75 for the burnout scale, and .81 for the compassion fatigue/secondary trauma scale. The Portuguese version also showed good internal consistency (.86 for the compassion satisfaction scale, .71 for the burnout scale, and .83 for the compassion fatigue/secondary trauma scale; Carvalho 2011). In the present study, Cronbach's alphas were .86 for compassion satisfaction, .74 for burnout and compassion fatigue. Regarding the IRI, Cronbach's alphas for the scales in the Portuguese version were adequate: Empathetic concern = .77; Perspective taking = .74; and Personal distress = .81 and Fantasy = .83 (Limpo *et al.* 2010). Cronbach's alphas for the present sample were .67 for empathic concern, .72 for perspective taking, and .75 for personal distress. Regarding the IGQ-67, the original subscales had good internal consistency estimated by Cronbach's alpha, namely .85 for survivor guilt and .83 for omnipotence guilt. Cronbach's alpha in the present study was .80 for survivor guilt and .75 for omnipotence guilt.

## Results

### Sample's Characteristics

A total of 298 registered nurses from public hospitals participated in the study. This sample had a mean age of 37.86 ( $SD = 9.22$ ), ranging between 22 and 60 years of age; the majority of participants were female ( $n = 245$ ; 82.2%) and married ( $n = 171$ ; 57.4%). Also, the mean years of schooling was 15.80 ( $SD = 2.18$ ). Participants practiced nursing in a wide variety of fields, with 14.98 ( $SD = 9.19$ ) mean years of practice. This sample consisted primarily of nurses who are women, married, living and working in an urban area, and working for an average of 15 years.

## Descriptive Statistics

Descriptive statistics are presented in Table 1. Mean values for professional quality of life scales were similar to previous studies with nurses (e.g., Sekol & Kim 2014), as were mean values for the empathy components (e.g., Gleichgerrcht & Decety 2013). Regarding empathy-based guilt, mean values were also similar to those obtained in a previous study (O'Connor *et al.* 1997).

## Correlational Analysis

Correlations between the variables are presented in Table 2. Burnout and compassion fatigue were positively associated with personal distress and interpersonal guilt. Burnout was negatively associated with empathic concern and perspective taking, while compassion fatigue was positively associated with empathic concern. As expected, interpersonal guilt was positively associated with all dimensions of empathy.

## Mediation Analyses

Mediation analyses were conducted to test a theoretical model of the relationships between empathy dimensions (empathic concern and perspective taking), empathy-based pathogenic guilt and professional quality of life. We hypothesized that when empathy is associated with pathogenic guilt, i.e. survival and omnipotence guilt, it may contribute for professional ill-being (compassion fatigue and burnout symptoms). Because perspective taking was not significant associated with compassion fatigue we did not test a mediation model. Figure 1 presents a conceptual diagram of the mediation models.

### Burnout

In line with our hypothesis we found a significant indirect effect of empathic concern on burnout through survivor guilt estimated as  $B = 0.13$ ,  $BootSE = 0.05$ ,  $BootCI [0.136 -$

0.325], and through omnipotent guilt,  $B = 0.09$ ,  $BootSE = 0.04$ ,  $BootCI [0.014 - 0.173]$ .

These indirect effects suggest that two nurses who differ by one unit in their reported empathic concern are estimated to differ by 0.13 and 0.09 units in their reported burnout scores as a result of the tendency for those who have more empathic feelings of concern to have more survival and omnipotent guilt respectively. These indirect effects were statistically different from zero, as revealed by 95% bias-corrected bootstrap confidence intervals that were entirely above zero. We also found a negative significant direct effect of empathic concern on burnout in this model,  $B = -0.42$  ( $SE = .08$ ),  $t(259) = -4.76$ ,  $p < .001$ ,  $CI [-0.589 - -0.245]$ , which represents the estimated difference in burnout scores between two nurses experiencing the same level of interpersonal guilt but who differ by one unit in their reported empathic concern. The coefficient is negative suggesting that the nurse feeling more empathic concern but has equal scores of interpersonal guilt is estimated to be 0.42 units lower in his or her reported burnout scores.

We also found a significant indirect effect of perspective taking on burnout through survivor guilt,  $B = 0.03$ ,  $BootSE = 0.02$ ,  $BootCI [0.004 - 0.089]$ , and not omnipotent guilt. There was a significant direct of perspective taking on burnout,  $B = -0.29$  ( $SE = .09$ ),  $t(259) = -3.31$ ,  $p = .001$ ,  $CI [-0.464 - -0.118]$ .

#### Compassion Fatigue

There were significant indirect effects of survivor guilt,  $B = 0.15$ ,  $BootSE = 0.04$ ,  $BootCI [0.074 - 0.241]$ , and omnipotent guilt,  $B = 0.08$ ,  $BootSE = 0.04$ ,  $BootCI [0.009 - 0.167]$ , on the relation between empathic concern and compassion fatigue. The direct effect of empathic concern on compassion fatigue was not statistically different from zero in this model.

## Discussion

The main purpose of the present investigation was to explore the concept of empathy-based guilt in nurses, and to determine the role of empathy-based guilt on the association between empathy and professional quality of life.

Results from the correlations suggested that empathy and empathy-based guilt were associated with professional quality of life. Specifically, we found that negative self-oriented emotions elicited by others' distress were associated with burnout and compassion fatigue. These results are in line with a previous study exploring the association between empathy and negative aspects of professional quality of life in a large sample of physicians (Gleichgerrcht & Decety 2013). We also found that perspective taking was associated with burnout but not with compassion fatigue. This result suggests that having an ability to infer others' thoughts and feelings while understanding that they may differ from an individual's own may be protective for burnout, but not compassion fatigue. Also, although empathic feelings of care and concern were associated with lower scores of burnout, they were associated with higher scores of compassion fatigue. These results may indicate that beyond a certain level empathic feelings and sensibility to others' suffering may be a vulnerability factor for the development of compassion fatigue, as previously suggested in the literature (Figley 2002, 2012).

We also found positive associations between empathy-based guilt and all empathy variables. Specifically, survivor and omnipotent guilt were associated with higher scores of personal distress, perspective taking and especially empathic concern. These results are in line with a previous study (O'Connor *et al.* 2002), and support the interpersonal perspective that describes feelings of guilt as deriving from empathy (e.g., Baumeister *et al.* 1994, Hoffman 2000, Zahn-Waxler & Kochanska 1990).

Results also indicated that survivor and omnipotent responsibility guilt were associated with higher levels of burnout and especially compassion fatigue. These results

provided the first empirical evidence of the relationships between empathy-based guilt and professional quality of life, and are in line with other studies linking empathy-based guilt and the experience of psychological difficulties (O'Connor *et al.* 2007, Wilson, personal communication 2006).

Using a multiple mediation procedure, we tested our hypotheses about the relationships between empathy, empathy-based pathogenic guilt and professional quality of life. We hypothesized that when empathy is associated with pathogenic guilt, this may impact on nurses' professional quality of life. Results confirmed these hypotheses, suggesting that nurses with more empathic feelings of care and concern may be more vulnerable to experience burnout symptoms and compassion fatigue, as a result of their proneness to experience more survival guilt and omnipresent responsibility guilt, i.e., when associated with their empathic feelings are irrational beliefs regarding causality that give rise to pathogenic guilt. In the burnout model, empathic concern remained negatively associated with burnout, which suggests that only when empathic feelings give rise to pathogenic guilt-related beliefs they may be a vulnerability factor for burnout symptoms. Otherwise, empathic feelings of care and concern may buffer against burnout, which is in line with other studies (e.g., Lamothe *et al.* 2014, Gleichgerrcht & Decety 2013), and highlight the importance of promoting empathy in the healthcare context.

### Implications

The results of this study suggest that pathogenic empathy-based guilt may help explain some of the links between clinical empathy and symptoms of burnout and compassion fatigue. Given the nature of their work, nurses are particularly exposed to situations that constantly recruit their empathic abilities. Given the close association between guilt and empathy, it is likely that nurses more prone to experience pathogenic empathy-based guilt may experience excessive and misplaced responsibility for their patients. In turn, this

unbalanced empathy and unrealistic beliefs about responsibility can lead to caregiving that may not only be depleting and damaging to the life of the caregiver but also may lead to unprofessional and intrusive caring.

Thus, interventions and training programs targeting pathogenic empathy-based guilt and empathic distress may be particularly important to help reduce burnout and compassion fatigue. In a recent study, O'Connor and colleagues (2015) found that people engaged in contemplative practices (e.g., mindfulness, Tibetan, Theravada) appear to be less vulnerable to empathic distress and maladaptive or pathological guilt, when compared to a sample from the general population. Also, some studies have been providing some evidence that such interventions may be particularly effective to reduce burnout in nurses (e.g., Mackenzie *et al.* 2006, Cohen-Katz *et al.* 2005).

#### Limitations and future directions

Although these findings are very promising, several limitations should be taken into account. First, the cross-sectional nature of this study does not allow to draw causality inferences between empathy, pathogenic empathy-based guilt and professional quality of life. Also, the sample size was small and participants were mainly women. However, the proportion of female and male nurses in our sample matches other international samples (Budden *et al.* 2013, Heinen *et al.* 2013). We used a convenience sample of hospitals and nurses which, by being a nonprobability sampling method, may limit external validity. In addition, the data was derived entirely through self-report measures and thus is subject to the limitations associated with this type of methodology (e.g., response bias, introspective ability).

Given this is the first study to explore the concept of pathogenic guilt in this population, future studies should try to replicate these findings, in larger samples, using experimental and longitudinal designs to test particular hypotheses based on the present

findings, and with alternative ways to measure these processes (e.g., functional neuroimaging studies; observational and experimental studies; qualitative data) to further enhance the understanding of the complex relations between these variables.

### Conclusions

Guilt is very important for social relations and is associated with empathy and prosocial behavior. However, when empathy-based guilt becomes excessive, unrealistic in scope and perspective and leads to erroneous beliefs about causality, it can lead to psychological problems. Given the nature of their caregiving work and responsibility for others' well-being, nurses especially prone to experience pathogenic empathy-based guilt may be more vulnerable to experience burnout and compassion fatigue symptoms. Finding ways to identify and target pathogenic guilt may be important to burnout and compassion fatigue prevention and treatment.

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*Figure 1.* Conceptual diagram of the direct and indirect effects of empathy on professional quality of life.

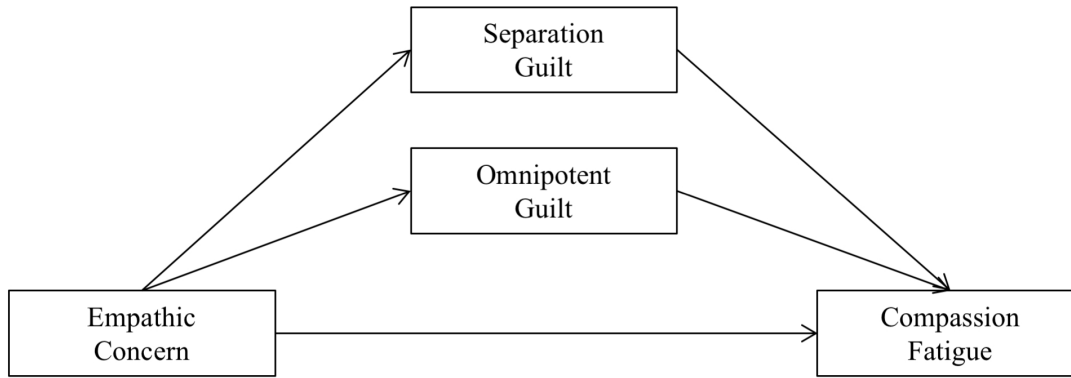


Table 1

*Means, Standard Deviations, Minimum, Maximum, Skewness, Kurtosis, and Cronbach's Alpha ( $\alpha$ ) of the Study Variables (N = 298)*

	<i>M</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>	<i>Skew</i>	<i>Kurtosis</i>
Burnout (ProQOL)	25.05	5.15	12.00	44.00	.20	.39
Compassion Fatigue (ProQOL)	25.34	4.85	4.00	42.00	.32	.22
Empathic Concern (IRI)	17.38	3.49	6.00	24.00	-.09	.06
Personal Distress (IRI)	9.28	4.24	0	20.00	-.04	-.32
Perspective Taking (IRI)	16.76	3.33	6.00	24.00	-.10	.06
Survival Guilt (IGQ)	63.76	8.49	43.00	94.00	.56	.81
Omnipotence Guilt (IGQ)	48.61	6.49	27.00	66.00	-.03	.23

*Note.* ProQOL = Professional Quality of Life; IRI = Interpersonal Reactivity Index; IGQ =

Interpersonal Guilt Questionnaire

Table 2

*Correlations Between Burnout, Compassion Fatigue, Empathy and Empathy-based Guilt**(N = 298)*

	1	2	3	4	5	6	7
1. Burnout (ProQOL)	-						
2. Compassion Fatigue (ProQOL)	.47**	-					
3. Empathic concern (IRI)	-.18**	.20**	-				
4. Personal distress (IRI)	.20**	.23**	-.09	-			
5. Perspective taking (IRI)	-.16**	-.02	.42**	-.12*	-		
6. Survival Guilt (IGQ)	.19**	.38**	.39**	.31**	.13**	-	
8. Omnipotence Guilt (IGQ)	.16**	.32**	.39**	.23**	.13**	.57**	-

*Note.* \* $p \leq .05$ ; \*\* $p < .01$ ; ProQOL = Professional Quality of Life; IRI = Interpersonal

Reactivity Index; IGQ = Interpersonal Guilt Questionnaire



Empathy, guilt and professional quality of life

Empathy and feelings of guilt experienced by nurses: a cross-sectional study of their  
role in burnout and compassion fatigue symptoms

Joana DUARTE<sup>1\*</sup>, MSc. & José PINTO-GOUVEIA<sup>1</sup>, PhD, MD

<sup>1</sup>Cognitive–Behavioral Research Centre for Research and Intervention (CINEICC),  
University of Coimbra, Portugal

\*Corresponding author:

Address: CINEICC, Faculdade de Psicologia e de Ciências da Educação da  
Universidade de Coimbra, Rua do Colégio Novo, 3001–802, Coimbra, Portugal.

E-mail: joana.fm.duarte@gmail.com

Phone number: +351 239 851 450

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