COMPASSION AT WORK MATTERS:

Understanding its Impact on Well-Being Through Empirical Research

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"Compassion is the basis of morality".

Arthur Schopenhauer

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CHAPTER 1

General Introduction

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In recent years there has been a growing interest in studying Compassion in organisations as a powerful tool to face the challenges of the VUCA (Volatility, Uncertainty, Complexity, and Ambiguity) environment. The constant need to adapt, the fear of job instability, and the pressure to continuously learn and evolve can significantly impact employees' mental health and well-being (Fonte & Pimentão, 2022). Against this backdrop, understanding and cultivating compassion in organisations seems to be a crucial factor in supporting employees and creating a healthier work environment.

The COVID-19 pandemic has further underscored the significance of compassion in organisations. The sudden shift to remote work, the isolation, combined with the fear of contracting the virus and the uncertainty surrounding job security, has magnified the challenges faced by employees (Lades et al., 2020). Consequently, there has been an increased recognition of the need to prioritise mental health and well-being, with compassion being seen as a potential solution to alleviate employee suffering and foster resilience in the face of adversity (Chen & Köhler, 2021).

The development of Compassion in the workplace is crucial since it creates a supportive and empathetic environment where employees feel valued and understood. Also helps individuals cope with stress and uncertainty by fostering mental health and well-being (Dutton et al., 2014; Worline et al., 2017). It is important that organisations provide resources and support systems that enable individuals to thrive even in challenging and stressful circumstances. By cultivating compassion, organisations can foster a culture of trust, cooperation, and collaboration among employees, helping them to adapt and cope with the demands of today' turbulent environment.

Definition of Compassion

Etymologically, the term "compassion" comes from the Latin "compassĭo," which is derived from the transitive verb "compadecer," meaning to feel sorrow, tenderness, and

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identification towards someone else's misfortunes (Real Academia Española, 2014). Furthermore, various terms have been used to describe the emotions that arise in response to the suffering of others, such as empathy, empathic concern or distress, sympathy, and pity (Goetz et al., 2010). At times, these terms can be conflated with the true meaning of compassion.

The concept of compassion is found in Buddhism and scientific literature (Germer & Siegel, 2012). From both a scientific and Buddhist perspective, compassion aims not only to alleviate suffering but also to achieve happiness and well-being. It involves cultivating positive mental qualities that lead us to become happier individuals (Strauss et al., 2016). According to research, compassion and altruism constitute the fourth essential component of happiness, with the first being mindfulness, which is intrinsically connected to compassion. The second involves extending positive emotions, while the third refers to quickly recovering from negative emotions. Compassion focuses on kindness, empathy, love in the presence of others' suffering, and the desire to alleviate that suffering, as well as the wish for well-being and happiness (Germer & Siegel, 2012).

For instance, compassion can be defined "as a motivation that orientates to a sensitivity to suffering in self and other with a commitment to try to alleviate and prevent it" (Gilbert & Choden, 2013). It involves developing a non-judgmental and gentle approach to oneself and responding to others' pain with a sincere desire to help (Gilbert, 2014). According to Pommier et al. (2020), compassion consists in three key constructs:

1. *Kindness* which involves demonstrating care and concern for individuals who are experiencing pain or distress. It goes beyond empathy and includes a sincere desire to provide support and assistance to those in need.

2. *Common humanity* emphasises the acknowledgment that all people, at some point in their lives, encounter hardships and challenges. It underscores a sense of interconnectedness with those who are suffering, highlighting the idea that we share a common human experience of struggle.

3. *Mindfulness* refers to a state of balanced awareness. It entails neither avoiding nor becoming overwhelmed by the suffering of others. Instead, it involves a willingness to

actively listen and pay close attention to others when they are going through difficult times. It encourages a mindful and empathetic response to the suffering of others, fostering deeper understanding and connection.

Developing compassion is important for several reasons, practicing self-compassion enables individuals to foster a positive relationship with themselves (Raab, 2014). By treating oneself with kindness and understanding, individuals can develop resilience, self-acceptance, and emotional well-being. Self-compassion allows for greater self-care, reducing self-criticism and self-judgment, and promoting a healthier sense of self-worth (Neff, 2003). Moreover, when individuals cultivate compassion towards themselves, they become better equipped to extend it to others, creating a positive ripple effect in interpersonal interactions and relationships (Clark et al., 2021). It can be understood that the key difference between compassion and self-compassion is their direction. Compassion is outward, emphasising the shared human experience, while self-compassion is inward, focused on self-acceptance and self-soothing

In addition to the personal benefits, compassion is a fundamental aspect that can be integrated into the workplace. It involves an interpersonal process that encompasses noticing, feeling, sensemaking, and acting to alleviate the suffering of others (Dutton et al., 2014). Organisations are places where individuals encounter various forms of suffering, ranging from work-related stress and pressure to interpersonal conflicts and lack of recognition (Kanov, 2020). But compassion in the workplace is not only limited to reactive responses to individual situations of suffering. It also involves leaders and employees valuing and prioritising well-being by demonstrating care, empathy, and understanding in daily interactions with others (Benevene et al., 2022).

Research has shown that when employees experiences compassion from their colleagues and leaders, they report higher levels of job satisfaction, engagement, and commitment with the organisations (San Román-Niaves et al., 2022). Workplaces that promote compassion also tend to have lower levels of turnover and absenteeism, as increased performance, and productivity (Kline, 2019). Additionally, compassion can create a sense of psychological safety, where employees feel comfortable expressing their needs, concerns, and

ideas without fear of judgment or negative repercussions. This psychological safety fosters a climate of trust and cooperation (Sapra & Mathur, 2020).

By fostering compassion, organisations can enhance employee well-being, satisfaction, and engagement. Moreover, compassion contributes to the creation of a safe and inclusive work environment that promotes collaboration, innovation, and overall organisational success (Kline, 2019).

Compassion as a personal resource

In situations where mental health, motivation and well-being in the workplace deteriorate, it is important to increase job and personal resources (Schaufeli & Taris, 2014). The Job Demands and Resources Model (JD-R), proposed by Bakker and Demerouti (2014) emphasises the significance of personal resources in diminishing the negative impact of job demands and promote the positive impact of job demands on motivation, especially when faced challenges throughout the workday.

Personal resources refer to psychological attributes that are associated with resilience and the capacity to control and positive influence over one's own environment, which help workers to achieve their goals and encourage personal and professional growth (Schaufeli & Taris, 2014). Extensive research has highlighted the significance of personal resources as predictors of well-being when combined with job resources. For instance, factors such as self-efficacy, optimism, and organisational self-esteem has been identified as crucial contributors to well-being (Xanthopoulou et al., 2007). Moreover, the concept of psychological capital (PsyCap), which encompasses hope, resilience, self-efficacy, and optimism, has been found to significantly enhance personal resources (Vink et al., 2011). These personal resources often intersect within groups, where both actual and potential resource losses are regarded as pivotal stressors in individuals' lives (Hobfoll et al., 2018). In similar way, compassion can also be seen as a personal resource, given its positive impact across various dimensions of well-being.

The Healthy and Resilient Organisations Model (HERO; Salanova et al., 2012; 2019) highlights the significance of personal resources in promoting well-being within organisations. Additionally, the model proposes that when employees have access to and actively utilise their

personal resources, they become better equipped to handle job demands and stressors, leading to heightened well-being and job satisfaction (Salanova et al., 2012; 2019). Research on the HERO model and personal resources has indicated that individuals who feel supported and empowered to utilise their personal resources experience reduced burnout, increased engagement, and enhanced job performance. Moreover, employees with higher levels of personal resources are more likely to positively adapt to organisational changes and challenges, contributing to a healthier and more resilient organisational culture (Gil-Beltrán et al., 2020; Llorens et al., 2013)

Compassion can be considered a personal resource that not only has a significant impact on interpersonal relationships but also contributes to well-being. According to Kinman and Grant (2020), compassion can serve as a protective factor against the negative effects of emotional overload on employee well-being. This concept aligns with a previous study that has demonstrated the buffering role of compassion in mitigating the impact of demands (Brito-Pons et al., 2018). Furthermore, research has consistently shown that cultivating compassion is associated with various benefits, such as decreases in perceived stress, depression, and anxiety, as well as improvements in well-being, including higher levels of self-compassion, satisfaction, social safety (Matos et al., 2022; Orellana-Rios et al., 2017; Scarlet et al., 2017). Besides, compassion has been shown to enhance emotional regulation skills, in which individuals who possess high levels of compassion exhibit an improved ability to effectively manage their emotions (Paakkanen et al., 2021). This implies that they are better equipped to handle challenging situations, regulate their stress response, and maintain a positive perspective even when faced with adversity. Compassion acts as a protective barrier against emotional distress, enabling individuals to navigate difficult circumstances (Buonomo et al., 2022).

Considering the above, studies have demonstrated a positive association between compassion and indicators of psychological well-being, for instance, engagement, resilience, optimism, and burnout. Engagement refers to a positive, pleasing, job-related state of mind distinguished by vigour, dedication, and absorption (Schaufeli, 2015), improving work engagement is crucial in enhancing employee well-being, job satisfaction, and a range of positive outcomes in the workplace. These outcomes include increased productivity, work

quality, and higher levels of job satisfaction (Demerouti & Bakker, 2022). Compassion has the potential to foster increased engagement by enhancing individuals' sense of belonging and purpose in the workplace (Dutton et al., 2014).

On the other hand, burnout can be viewed as an adverse aspect of well-being or the opposite end of the spectrum compared to work engagement (Schaufeli et al., 2006). Burnout is characterised by emotional exhaustion, depersonalisation, and a diminished sense of personal fulfilment in the workplace (Maslach & Jackson, 1981). It is important to recognise that suffering is a common condition in the workplace and can lead to burnout (Dutton et al., 2014; Lilius et al., 2008, 2011). The job demands and challenges faced in the daily work can take a toll on individuals, impacting their well-being (Lopez-Martin & Topa, 2019). However, compassion can act as a buffer and as a protective factor against burnout, as it fosters a shared understanding of difficult experiences or mental states in the workplace, which, in turn, contributes to diminish burnout levels (Buonomo et al., 2022).

Moreover, compassion is closely related to resilience, which is the maintenance of positive adjustment under challenging situations, so that the organisations emerge from those conditions strengthened and more resourceful (Sutcliffe & Vogus, 2003). When individuals receive support from their colleagues, supervisors, or the overall organisational environment, it fosters a feeling of belonging and provides the necessary support to strengthen their resilience (Carmassi et al., 2020). For instance, healthcare professionals who have high levels of compassion tend to be more resilient, demonstrating their ability to emerge stronger from challenging situations (Cosley et al., 2010).

Lastly, optimism refers to an individual's inclination to anticipate positive outcomes and believe in the occurrence of favourable events in their lives (Carver et al., 2010). Compassion is positively linked to optimism, in which compassion serves as a constructive response that contributes to the restoration and establishment of positive meaning and psychological well-being (Vogus et al., 2020).

Compassion-based interventions in the workplace

 Given the vital role of compassion as a personal resource, there is a need to actively foster and cultivate it. To facilitate the development of compassion, various psychological interventions have been designed. These interventions can be defined as practices aimed at cultivating and enhancing compassion within individuals, fostering empathetic understanding, kindness and supportive behaviours towards oneself and others (Kirby & Gilbert, 2017).

The most common interventions include Compassion Focused Therapy (CFT; Gilbert, 2014), Mindful Self-Compassion (MSC; Neff & Germer, 2013), and Compassion Cultivating Training (CCT; Jazaieri et al., 2013). These interventions go beyond mere theoretical concepts and provide individuals with practical tools and skills to enhance their capacity for compassion, targeting the construct of compassion directly and indirectly (Ash et al., 2021). Compassion-based interventions utilise a range of techniques, including guided meditations, reflective exercises, and awareness activities, among others (Gilbert, 2014). These interventions are designed not only to mitigate negative outcomes such as stress, anxiety, and depression (Roca et al., 2021) but also to enhance positive outcomes such as compassion towards the oneself and others, personal and social well-being, interpersonal relationships, and overall quality of life (Allen & Leary, 2010; Leaviss & Uttley, 2015; Nebot-Gresa et al., 2021).

While compassion-based interventions have demonstrated positive effects, particularly in personal well-being and interpersonal relationships, there is a notable gap examining their effectiveness in the workplace. To date, few studies have implemented compassion-based interventions in the workplace (Matos et al., 2022; Santos et al., 2022; Scarlet et al., 2017) and there is a lack of comprehensive synthesis regarding the underlying mechanisms that contribute to their effectiveness.

For instance, it is fundamental to comprehensively understand what happens during and after the implementation of the intervention to assess its effectiveness. To address this issue, two components, process evaluation and training transfer can provide valuable insights. Process evaluation, as proposed by Linnan & Steckler (2002), is a systematic approach to evaluating the

implementation and delivery of the intervention. It involves assessing the mechanisms, activities, and contextual factors that influence intervention outcomes.

In addition to process evaluation, the concept of training transfer is also important when evaluating intervention effectiveness. Training transfer, as outlined by Baldwin and Ford (1988), refers to the extent to which the knowledge, skills, and attitudes acquired through training are effectively applied in the work setting. Examining the factors that facilitate or hinder training transfer can inform the design and implementation of interventions, maximising their effectiveness and sustainability in the workplace (Gemmano et al., 2022; Nielsen, Ng, Guglielmi, et al., 2023). Despite of its importance, there are not studies that considered the process evaluation and training transfer in compassion-based interventions in the workplace.

Contribution to current knowledge

Despite the growing interest in studying compassion in the workplace, there remains a significant lack of empirical research in this area. While compassion seems to be a valuable personal resource, its application and impact within the organisational settings have not been extensively investigated. Particularly, there is a scarcity of studies that have examined the antecedents and consequences of compassion in the workplace, hindering a comprehensive understanding of its effects on individuals and in the healthy organisational outcomes (i.e., in-role and extra-role performance, commitment).

Furthermore, most of the existing research on compassion in the workplace has predominantly focused on compassion at the individual level, neglecting the potential influence and dynamics of compassion at the group level. Although compassion is a personal resource, its impact extends beyond the individual, and it is important to explore how compassion operates within groups and work teams and how it can contribute to collective well-being (Farr-Wharton et al., 2023).

Moreover, another crucial aspect that has received limited attention is the study of the effectiveness of compassion-based interventions in the workplace. Although compassion-based interventions hold promise for enhancing individual well-being (Andersson et al., 2022; Mascaro et al., 2023; Orellana-Rios et al., 2017), there is a lack of studies that have examined

the mechanisms that make these interventions effective, specifically in terms of process evaluation and training transfer. Without evaluating these mechanisms, it becomes challenging to determine which components contribute to the success or failure of compassion-based interventions.

This dissertation aims to provide empirical evidence supporting the role of compassion as a personal resource that can promote well-being in employees by adopting the theoretical frameworks of the HERO model (Salanova et al., 2012: 2019) and the JD-R theory (Bakker & Demerouti, 2014). The study delves deeper into the antecedents and consequences of compassion, exploring it in a broader social and group context while taking into consideration the multilevel nature of organisations. Moreover, it sheds light on the mechanisms that make compassion-based interventions effective in the workplace. To achieve these objectives, the thesis will use various samples of employees and employ a comprehensive quantitative methodology, including Structural Equation Modelling (SEM), Hierarchical Linear Modelling (HLM), and a Systematic Literature Review and Meta-Analysis. This combination of methodologies ensures a thorough examination of the relationships, mechanisms, and overall impact of compassion on employee well-being and organisational outcomes.

Research Challenges

This thesis aims to fill the existing gaps in the scientific literature on compassion in the workplace. It seeks to address various research questions that will form the foundational framework for the primary goals of the dissertation.

CHALLENGE 1: To what extent compassion can be justified as a significant resource in the workplace?

As was mentioned before, compassion is a fundamental aspect that can be justified as a significant resource in the workplace. In a context where stress and job demands are increasingly prevalent, compassion can promote employee well-being and performance (Dutton et al., 2014).

When considering compassion as a personal resource, its capacity to positively influence the individual and their work environment is acknowledged. According to the JD-R

model (Bakker & Demerouti, 2014), personal resources are psychological characteristics that help employees to cope with job demands and enhance their motivation and commitment. Compassion, as a personal resource can contribute to employees' emotional well-being, resilience, improve emotional regulation, and reducing distress (Orellana-Rios et al., 2017a).

From this perspective, compassion can be a powerful tool for enhancing well-being and a significant personal resource that positively impacts individuals. According to the HERO (Salanova et al., 2012, 2019) in situations where job demands are excessive, personal, and social resources must be present to prevent the deterioration in health, motivation, and performance.

In addition, it is important to highlight the significance of studying social job resources, as they have a significant influence on shaping the experiences and behaviours of employees (Grant & Parker, 2009). Job social resources are aspects of work, such as emotional and instrumental support provided by supervisors and colleagues (Demerouti et al., 2001).

The presence of a supportive workplace climate characterised by strong social relationships, social support, effective coordination among colleagues, and positive leadership is likely to foster the cultivation of compassion. It is crucial to study the relationship between compassion and social job resources to understand the impact it can have on employee well-being and organisational outcomes.

CHALLENGE 2: Can compassion have positive effects within a broader social and group context rather than solely in individuals?

While compassion has been predominantly studied at the individual level, there is a growing recognition of its importance within organisations. Compassion can lead to renewal of resources, strengthening of shared values, development of relational skills, increased well-being, and improve performance in the workplace (Dutton et al., 2007).

In terms of psychologically healthy workplaces, the HERO model (Salanova et al., 2012, 2019) suggests that organisations should deploy personal and job social resources to maintain employees' health, motivation, and performance. Compassion is categorised as a resource withing the HERO Model and has been shown to have positive impact on healthy organisational outcomes (San Román-Niaves et al., 2022).

Moreover, recent studies have highlighted the importance of recognising resources across various levels within organisations. These findings highlight the necessity to identify and strength resources in different levels: Individual, Group, Leader and Organisational (IGLO Nielsen et al., 2018). The IGLO Model underscores the significance of considering resources at each level to promote employee mental health, well-being, and performance. Studies conducted by Day and Nielsen (2017) and Nielsen et al. (2017) have supported the implementation of action to reinforce resources at these multiple levels, aiming to enhance the overall functioning of the organisation.

For instance, the JD-R Model (Bakker & Demerouti, 2014) has integrated a new approach providing a more comprehensive framework that encompasses the impact of job demands and resources on employee well-being and performance at multiple organisational levels (Bakker et al., 2022). It aligns with the HERO Model (Salanova et al., 2012, 2019), which considers the multilevel nature of organisations.

Considering compassion within organisational models provides an opportunity to gain a deeper understanding of its role in relation to other resources and its impact on overall organisational functioning. This inclusion emphasises the significance of cultivating compassion within work groups and teams, leading to benefits for both individual team members and the organisation as a whole.

CHALLENGE 3: Are compassion-based interventions in the workplace effective and which are the mechanisms that make these interventions effective?

Evidence has demonstrated that compassion plays a crucial role in assisting individuals in their recovery from difficult and stressful circumstances. By cultivating compassion, individuals are empowered to navigate and overcome adversity, leading to a re-engagement with their work and an enhancement in job performance (Lilius et al., 2011). Hence, it is imperative for employees to foster and develop their compassionate skills.

However, despite the significance of cultivating compassion in the workplace, there is a lack of studies of compassion-based interventions in the workplace. Moreover, existing research on interventions tends to prioritise a methodological approach that emphasises standardising

outcomes, often overlooking the importance of considering the contextual factors, process dynamics, and alignment between the intervention and the specific organisational context (Gilbert et al., 2018)

A literature systematic review with meta-analysis focused on compassion-based interventions in the workplace, considering process evaluation and training transfer, will offer valuable insights into understanding the mechanisms that influence their effectiveness. It can provide guidelines for developing effective interventions and propose an evaluation model to assess their implementation and outcomes.

Outline of the dissertation

This thesis aims to contribute to the expanding body of literature on compassion in the workplace by examining how compassion impacts individuals' mental health, well-being, and performance in an organisational context. Each chapter of this dissertation delves into the challenges in greater detail. The dissertation presents three empirical studies in Chapters 2, 3, and 4, which investigate the influence of compassion in the work environment. Lastly, Chapter 5 provides a summary of the topic and key findings, explores the practical and theoretical implications, and outlines potential directions for future research. Table 1 offers a concise overview of the challenges explored in each chapter.

Table 1

Overview of research challenges addressed throughout the chapters of the dissertation.

		Chapters		
		2	3	4
Challenge 1	To what extent compassion can be justified as a significant resource in the workplace?	X	X	
Challenge 2	Can compassion have positive effects within a broader social and group context rather than solely in individuals?		X	
Challenge 3	Are Compassion-based interventions in the workplace effective and which are the mechanisms that make these interventions effective?			X

Chapter 2: The Mediating Role of Compassion between Social Job Resources, and Healthy

Healthcare Professionals: A Cross-Sectional Study with Gender Perspective

This chapter investigates the mediating role of Compassion towards others as a mediator between Social Job Resources (including social support climate, coordination, and positive leadership), Healthy Employees (consisting of psychological well-being such as engagement, resilience, and optimism), and Healthy Organisational Outcomes (encompassing in-role performance, extra-role performance and commitment) from a gender perspective in healthcare professionals. The sample consisted in 1420 healthcare professionals from various public and private hospitals in Spain. Statistical analyses were performed using multiple analyses of variance, structural equation models, and multiple-group analyses. With this study is expected that compassion will play a significant mediating role in the relationship between social job resources, healthy employees, and healthy organisational outcomes. Also, it is expected to uncover the mechanisms through which social job social resources influence the psychological well-being of healthcare professionals. Additionally, it is expected to find gender differences regarding compassion levels between women and men.

Chapter 3: A Multilevel Model of Compassion in Healthcare Organisations

This chapter analyse compassion as a psychological mechanism that explains how job demands and job social resources are related to well-being, such as engagement and burnout. Considering the multilevel nature of organisations, more specifically individual and group/tea m level. To test the hypotheses, hierarchical linear model analyses were performed, which allows to explore cross-level effects and interactions. The sample consists of 714 healthcare professionals who are nested within 35 teams across various public and private hospitals in Spain. Through these analyses, we aim to uncover the nuanced dynamics between job demands, job social resources, compassion, and employee well-being (engagement and burnout), providing valuable insights into how these factors operate at different levels within the organisational context. It is expected that job social resources will have a cross-level effect with compassion if it is controlled by job demands and compassion, and to have cross-level interaction on compassion. Moreover, it is expected that job social resources have a cross-level

effect with engagement if it is controlled by compassion and engagement, and to have cross-level interaction on engagement. Finally, it is expected that job social resources have a cross-level effect with burnout if it is controlled by compassion and burnout, and to have cross-level interaction on burnout.

Chapter 4: Evaluating the Effectiveness of Compassion-Based Interventions at Work: A Systematic Literature Review with Meta-Analysis Considering Process Evaluation and Training Transfer

This chapter aimed to systematically review and conduct a meta-analysis of the existing empirical literature on compassion-based interventions in the workplace. The primary objective was to investigate the effectiveness of this interventions on well-being. The second objective was to examine the process evaluation components and identify the mechanisms that promote training transfer. The analysis included a total of nine studies that met the specified inclusion criteria. Additionally, this study introduced the "Framework for Evaluating the Effectiveness of Compassion-based Interventions in the Workplace." With this study is expected to provide a robust and evidence-based understanding of the impact of compassion-based interventions on employee well-being. Moreover, it is expected that this study shed light on the process evaluation and training transfer mechanisms that influence on the effectiveness of the interventions. Furthermore, the proposed framework will offer valuable guidelines for the design, implementation, and evaluation of compassion-based interventions within work environments, aiming to enhance their effectiveness.

Chapter 5: General Conclusions

Finally, this last chapter summarises the main findings, conclusions, and contributions of the empirical chapters of this thesis, along with the key practical implications. Additionally, the limitations of the studies are identified, and future research directions are outlined.

CHAPTER 2

The Mediating Role of Compassion between Social Job Resources, and Healthy Healthcare Professionals: A Cross-Sectional Study with Gender Perspective

CHAPTER 2

The Mediating Role of Compassion between Social Job Resources, and Healthy Healthcare Professionals: A Cross-Sectional Study with Gender Perspective[1]

Abstract

The aim of this study is to examine the role of Compassion towards others as a mediator between Social Job Resources, Healthy Employees and Healthy Organisational from a gender perspective in healthcare professionals. Through the multiple analyses of variance, structural equation models, and multiple-group analyses in a sample of 1420 healthcare professionals from different public and private hospitals in Spain. The study revealed the presence of gender differences, with women perceiving higher levels of Compassion. Compassion was found to partially mediate the relationship between Social Job Resources and Healthy Employees, as well as between Social Job Resources and Healthy Organisational Outcomes. Moreover, Healthy Employees were found to mediate the positive relationship between Social Job Resources and Healthy Organisational Outcomes.

Keywords: compassion; healthcare context; social resources; well-being; healthy employees; healthy outcomes

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Introduction

The aim of this study is to examine the role of Compassion as a mediator between Social Job Resources (social support climate, coordination, and positive leadership), Healthy Employees (psychological well-being such as resilience, engagement, and optimism) and Healthy Organisational Outcomes (in-role performance, extra-role performance and commitment) from a gender perspective in healthcare professionals.

The need for Compassion towards others has reached an unprecedented level during our time and bears no contextual comparison, particularly among health care professionals (HCPs), who are currently facing consistently stressful situations. These situations expose them to multiple psychosocial risks at work, such as quantitative overload, role stress, exhaustion, mortal anguish (HCPs know what to do, but cannot act), lack of companionship and lack of time (Halifax, 2011). Moreover, inadequate staffing levels and longer shifts (i.e., more than 12 h) (Adriaenssens et al., 2015) hinder clinicians' ability to establish therapeutic relationships with patients. This, in turn, increases the workload, causing stress and exhaustion (Cameron & Payne, 2011). Additionally, HCPs are under increasing pressure to meet performance targets and achieve "more with less" service efficiencies (Rydon-Grange, 2018). All these negative outcomes have a serious impact on the health of patients and perception of the quality of care they receive (Sinclair, McClement, et al., 2016).

Research suggests that situations of deterioration of mental health, motivation and well-being can be alleviated by increasing job and personal resources (Schaufeli & Taris, 2014). For example, in the Job Demands and Resources (JD-R) Model, Bakker and Demerouti (Bakker & Demerouti, 2017) indicated the importance of the personal resources, which diminish the negative impact of job demands and enhance the positive impact of job demands on motivation, particularly on the challenges that may arise during the working day.

Personal resources are defined as psychological characteristics related to resilience and to the ability to control and to positively impact one's own environment, which help workers to achieve their goals and encourage personal and professional growth (Schaufeli & Taris, 2014).

Research has proved the importance of personal resources as mediators in the relationship between job resources and well-being, including self-efficacy, optimism, and organisational self-esteem (Xanthopoulou et al., 2007) or psychological capital (PsyCap) (hope, resilience self-efficacy and optimism) (Vink et al., 2011). Employees with high levels of PsyCap perceive fewer job demands and bring higher job resources (Xanthopoulou et al., 2007); they therefore feel less exhausted and are more vigorous, which is directly related to engagement (Van Den Broeck et al., 2008).

Compassion is one of the personal resources that research has proved to be relevant for HCPs (Bramley & Matiti, 2014). Gilbert and Choden (2013) defined Compassion "as a motivation that orientates to a sensitivity to suffering in self and others with a commitment to try to alleviate and prevent it". Research has established that Compassion towards others can help HCPs increase their self-esteem and appreciation for their work and to provide a high-quality care service (Mauno et al., 2016). Moreover, Compassion towards others can help to reduce perceived stress, anxiety, depression, burnout and improve emotion regulation (Orellana-Rios et al., 2017b).

So far, Compassion looks like an effective driver to improve wellbeing and could be a personal resource relevant to HCPs to cope with job stress and contribute to healthy and positive healthcare organisations. In that sense, Salanova et al. (Salanova et al., 2012, 2019) proposed that Healthy and Resilient Organisations (HERO) are "those organisations that promote healthy resources and practices" and "have healthy employees and workgroups that enjoy high psychosocial well-being, which in turn is related to healthy organisational results". The HERO model (Salanova et al., 2012) considers a motivational process in which Social Job Resources are vital to face job demands, leading to Healthy Organisational Outcomes. The HERO model explains that, in situations of excessive demands, personal and social resources must be present in order to prevent a deterioration in health, motivation, and performance. Compassion towards others can be considered as a personal resource that positively affects the three variables of the HERO model (i.e., organisational resources and practices, healthy employees, and healthy organisational outcomes).

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To this end, there is evidence about the positive effects (i.e., reducing job stress and improving wellbeing) of cultivating Compassion towards others, particularly considering the gender perspective. As mentioned earlier, Compassion is a process of alleviating suffering and caring for others, and this definition is often seen as gendered since prescriptive gender roles see it more as a feminine trait (Keane, 2014). There is limited research regarding the effects of gender on Compassion, so this research provides a great opportunity to show the role of Compassion from a gender perspective.

There is not much research on the premises and consequences of developing Compassion in the healthcare context. For this reason, it is important to explore the role of Compassion as a personal resource that could be developed by specific job resources that, in turn, can promote mental health, well-being (Healthy Employees) and positive results. In addition, the importance of studying Social Job Resources must also be highlighted, as they play a fundamental role in shaping employees' experiences and behaviours (Grant & Parker, 2009).

To address this issue, this article aims to examine the extent to which Compassion, considering gender, mediates between Social Job Resources (social support climate, coordination, and positive leadership) and Healthy Employees (engagement, resilience, and optimism) that, in turn have a positive effect on Healthy Organisational Outcomes (commitment, in-role, and out-of-role performance).

Compassion towards Others as a Personal Resource

In recent years, interest in studying Compassion as a personal resource has increased (Strauss et al., 2016). Despite this interest, there is a lack of research emphasising its role as a personal resource and how it can make job resources available in the healthcare context for HCPs. Compassion in medical care has received increasing attention from the health promotion literature, health care policy and professional organisations in recent years (Sinclair, Norris, et al., 2016), and interest in Compassion towards others has also increased due to its positive impact on the health of patients (Baguley et al., 2020).

Although the link between high quality care and Compassion is often assumed to be part of the job characteristics of the HCPs (Frampton et al., 2013; Leget & Olthuis, 2007), and

most HCPs are dedicated to performing their practice with Compassion, incidents of poor care have raised international concern about the state of Compassion in healthcare systems (Sinclair, Norris, et al., 2016).

In healthcare, Compassion towards others consists mainly of two elements: a deep awareness and willingness to gain knowledge of people's suffering and the desire to alleviate suffering (Chochinov, 2007). One of the most important characteristics that differentiates Compassion towards others from other prosocial behaviours, like empathy and pity, is the powerful desire to alleviate suffering (Sinclair, Norris, et al., 2016). In addition to fulfilling a professional duty, research increasingly suggests that HCPs' capacity to be compassionate is associated with better outcomes, including patient satisfaction, better quality doctor-patient interactions, and better long-term patient outcomes, both psychically and psychologically (Fogarty et al., 1999).

HCPs select treatments based on their efficacy, sometimes to the disadvantage of the quality of human relationships. However, this does not appear to be what patients want, quite the opposite. They want to be treated as people, to talk about their situation (Eide et al., 2011) and to speak as openly as possible (Hanson & Winzelberg, 2013). When a person is ill, they become particularly vulnerable and may require the assistance of others, even for the most insignificant things. In these situations, they want to be treated with care and Compassion (Patel et al., 2018). Sinclair et al. Sinclair, McClement, et al. (2016) developed a "Compassion Empirical Model" where they explained the point of view of patients and family members regarding their needs for their HCPs' compassionate skills. The results showed that communication, virtuous response and attending to needs are fundamental in HCPs to provide a quality service to their patients.

It is important to highlight the positive aspects of Compassion in HCPs mental health. Sansó et al. (2019) implemented the Mindful-Based Stress Reduction Training (MBSRT) and Compassion Cultivation Training (CCT) in HCPs and the results of this training showed an improvement of their quality of life (Compassion, satisfaction, resilience, empathy and decreased burnout and Compassion fatigue). Other studies revealed that mind-body skills

(MBS) and CCT diminished stress and improved mindfulness, empathy, and resilience (Kemper et al., 2015; Scarlet et al., 2017). Considering the above, it is important to study Compassion as a positive personal resource that can help to develop skills such as: knowing the patient, perceiving the patient's suffering, identifying with and being kind to the patient and showing respect, among others (Bramley & Matiti, 2014).

Previous research has shown that there are significant gender differences in Compassion, with most studies showing that women have higher levels of Compassion (Çingöl et al., 2018; Neff & Pommier, 2013; Oruç et al., 2020; Pavlova et al., 2021; Zenasni et al., 2012). This is an expected result as it may be related to women's emotional structure and maternal instinct (Arkan et al., 2020). Currently, more than 75% of the working population in the health sector are women (Boniol et al., 2019), which means that it is a feminised profession, as statistically the percentage of women compared to men is about 55%. Taking note of previous research, we are interested in how the gender variable can be linked to Compassion towards others.

The Mediating Role of Compassion towards Others between Social Job Resources and Healthy Employees

Compassion towards others is commonly seen as a fundamental social force that creates and enhances interpersonal relationships (Dutton et al., 2007). Likewise, it has been shown to improve well-being in vulnerable people, promoting an intimate bond between colleagues, and facilitating cooperation between strangers (Goetz et al., 2010), thus engaging supportive behaviours (Grant & Parker, 2009). People also feel Compassion for another person when they are in discomfort, distress and evident need and respond to this situation by helping them (Batson et al., 2015). This prosocial behaviour helps to relieve the wounded individuals' pain (Condon et al., 2013).

Social Job Resources are those aspects of work including the emotional and instrumental support of supervisors and work colleagues (Demerouti et al., 2001). It could be expected that having a workplace climate with rich social relationships, social support, positive coordination among co-workers as well as a positive leadership will result in creating

Compassion among HCPs. For example, it has been shown that social support gives the opportunity to the HCPs to receive feedback, to reflect, to share challenges, difficulties, and successes with colleagues, and to provide and receive support from leaders (Lown et al., 2010). If leaders and managers create a positive and supportive environment for HCPs, the HCPs in question create a caring, supportive climate and give a higher quality care service (West et al., 2014). Additionally, the coordination with HCPs' colleagues creates important bonds and encourages sharing of responsibilities, thus creating basis to reduce suffering (Valentine & Edmondson, 2014). Social Job Resources can help to increase Compassion towards others in a more efficient and reliable manner (Vogus et al., 2020).

Following on from this, research has shown that Compassion positively relates to indicators of psychological well-being, such as engagement, resilience, and optimism. Engagement can be defined as a positive, pleasing, job-related state of mind that is distinguished by vigour, dedication, and absorption (Schaufeli, 2015). In the healthcare context, it has been shown that Compassion is highly related to work engagement, particularly when the job tasks are very challenging (García-Sierra et al., 2016), and HCPs who are Compassionate feel more engaged (Deao, 2017). With regards to resilience, defined by Sutcliffe & Vogus (2003) as "the maintenance of positive adjustment under challenging situations, so that the organisations emerge from those conditions strengthened and more resourceful", if HCPs have high levels of Compassion, they are more likely to be more resilient, emerging stronger from adverse situations of crisis and trauma (Cosley et al., 2010; Lamothe et al., 2014). Finally, optimism is an individual's tendency to believe that good things will happen to them (Carver et al., 2010). Vogus et al. (2020) showed that Compassion towards others is related to optimism as a positive response that delivers and re-establishes positive meaning and psychological well-being. These studies suggest that Compassion can lead HCPs to feel better (well-being), enjoy higher levels of mental health and, therefore, be more productive, which translates into the happy-and-productive worker thesis (Wright & Cropanzano, 2007). This thesis proposes that people who are happier at work are more productive than those who are less happy, which implies that the higher the job and personal satisfaction, the better the performance. Therefore,

people who are happier in and out of the work context will perform even better (Lyubomirsky et al., 2005).

In summary, the literature proves the importance of Social Job Resources as enhancers of Compassion towards others and their positive impact, which, in turn, has a positive effect on different elements of employee wellbeing. In other words, Social Job Resources increase Compassion towards others (Dutton et al., 2006; Lutgen-Sandvik & Tracy, 2012), making work engagement, resilience, and optimism readily available and useful for increasing the likelihood of enhancing HCPs psychological well-being. The present study will focus on investigating Compassion as a positive psychology mechanism that could lead to psychological well-being (i.e., engagement, optimism, and resilience) and excellent organisational outcomes.

The Mediating Role of Compassion towards Others between Social Job Resources, Healthy Organisational Outcomes and Productive Workers

Compassion towards others allows Social Job Resources to be more easily accessed and deployed. As for creating resources, reinforcing certain shared beliefs and values, and the cultivation of relational skills (Dutton et al., 2007), this fostering of acts of Compassion can produce employees that are not only more engaged, but also more productive (Moon et al., 2016).

Previous research suggests that Compassion towards others helps people to recover from suffering and painful situations, overcoming these circumstances, re-engaging and improving their job performance (Lilius et al., 2012). Furthermore, developing compassionate skills allows people to attain a better work-life balance, which is related to Healthy Organisational Outcomes (Lilius et al., 2012) and has a positive impact on employees' job performance (Chu, 2017).

Considering commitment as another Healthy Organisational Outcome, promoting commitment in the healthcare context is an effective strategy to give a sense of belonging in the organisation (Chang, 2015), increase retention, bring a better-quality care service and more importantly, conserve patient health along with a great commitment to patients (Han & Chung, 2015). HCPs who are highly committed to their place of work maintain friendly relationships

with colleagues and achieve tasks based on the organisation (Karami et al., 2017). Besides, Compassion also drives commitment among employees (Ali & Kashif, 2020).

This study is also based on the theoretical framework of the HERO Model (Salanova et al., 2012, 2019), this model has been tested in different organisational sectors, where the main results showed that HEROs (healthy and resilient organisations) can enhance personal resources at work such as trust (Acosta et al., 2016), whereas horizontal and vertical trust is positively related to team commitment (vigour, dedication, and absorption). Salanova et al. (2012) indicated that the development of resilience can have significant effects on job performance as well. It can be assumed that the efficient use of social resources and organisational practices leads to a positive outcome that improves the employees' psychological well-being (Salanova et al., 2019).

This can be seen in the study conducted by Farris (2021), showing effectiveness in the healthcare context. The results of the study mention that if HCPs are satisfied and happy with their work and the work environment, they will be better able to develop their skills to perform their tasks and, as a result, an increase in productivity will follow.

The Current Study

The present study aims to evaluate the mediating role of Compassion between Social Job Resources (social support climate, coordination, positive leadership), Healthy Employees (engagement, resilience, optimism) and Healthy Organisational Outcomes (in-role and extra-role performance, commitment) from a gender perspective, using the data collected in different hospitals in Spain. More specifically, we explore Compassion as a positive psychological mechanism that can lead to high levels of well-being for healthcare workers and lead to successful organisational outcomes. On the other hand, we also examine the role of the Social Job Resources as Compassion enablers. All these issues are reflected in the following hypotheses:

Hypothesis 1 (H1): Women show higher levels of Compassion towards others than men.

Hypothesis 2 (H2): Compassion partially mediates the positive relationship between Social Job Resources and Healthy Employees.

Hypothesis 3 (H3): Compassion partially mediates the positive relationship between Social Job Resources and Healthy Organisational Outcomes (in-role, extra-role performance and commitment).

Hypothesis 4 (H4): Healthy Employees mediates the positive relationship between Social Job Resources and Healthy Organisational Outcomes.

Materials and Methods

Participants

The sample consisted of 1420 HCPs from different public and private hospitals in Spain. Mean age was 41.72 (SD = 10.77), average tenure time was 12.3 years (SD = 10.1), 78.67% (1117) were women and 21.33% (303) were men.

The procedure consisted of two parts: The first part, which was the contact with the hospitals, was carried out through a non-profit organisation that organises a yearly national competition to award hospitals and services with high levels of psychosocial well-being. The call for entries was launched via the NGO's website and social media. Hospitals and services interested in participating registered and submitted a nomination in accordance with the competition rules. As a pre-requisite, registered participants had to have the approval of their hospital/department administration. Once the registration deadline had passed, data collection began for a period of two months. The second part was the data collection, it was carried out through the Healthy and Resilient Organisations (HERO) Questionnaire (Salanova et al., 2012, 2019) that included 5 items of the Brief Compassion Scale (Amutio et al., 2018; Pommier et al., 2020), and other variables. The questionnaire was distributed among all the participants through an on-line link, encouraging them to participate voluntarily. Informed consent was obtained from each participant and data protection protocols were strictly followed according to existing GDPR regulations. The Ethics Committee of Jaume I University approved the study (CD/57/2020).

Instruments

Compassion towards others

Compassion towards others was measured using a brief adaptation of the Compassion Scale (Amutio et al., 2018; Pommier et al., 2020). Five items were chosen from the original scale (since, after conducting the analyses, they were the ones with the best factor scores), distributed between self-kindness, common humanity, mindfulness, and non-judgement/forgiveness. The items are scored on a seven-point frequency rating scale ranging from 0 (never) to 6 (always). Sample items include "If I see that someone is having difficulties, I try to help" (kindness), "I try not to judge others when they make mistakes or are wrong" (non-judgement/forgiveness), "I think everyone feels sad sometimes, it is part of being human" (common humanity), "I usually listen patiently when people tell me about their problems" (mindfulness). Cronbach's Alpha ($\alpha = 0.65$), and McDonald's Omega ($\omega = 0.65$): the Cronbach's Alpha is moderate, so it is above the acceptable limit (Brown, 2002), which is why the decision was made not to remove the item that scored less, as it would remain with two of the three constructs that make up Compassion.

Social Job Resources

Social Job Resources were measured using the HERO questionnaire subscale by the same name including social support climate, positive leadership, and coordination. Each of these items was represented by a single item, where each of these single items is the mean of the HERO subscale (Salanova et al., 2012, 2019). Participants answered using a seven-point frequency type scale with scores from 0 (never) to 6 (always). Sample items include "Degree to which your supervisor considers the needs of your service/care unit, recognising the effort and achievement of goals of the service/care unit" (positive leadership), "Degree to which you feel supported by your colleagues and supervisor personally and professionally" (social support climate) and "Degree to which you are coordinated with your work team, in order to respond to work situations" (coordination). (Cronbach's Alpha ($\alpha = 0.80$), and McDonald's Omega ($\omega = 0.81$).

Healthy Employees

Healthy Employees were measured using the HERO questionnaire subscale by the same name including engagement, resilience, self-efficacy, and optimism. Each of these items was represented by a single item, where each of these single items is the mean of the HERO subscale (Salanova et al., 2012, 2019). Participants answered using a seven-point frequency with scores from 0 (never) to 6 (always). Sample items include "Degree to which you feel immersed, full of energy and dedicated to your work, creating a positive climate of fulfilment and hope" (engagement), "Degree to which you feel capable of emerging stronger after facing adversity and failures at work" (resilience), and "Degree to which you generally expect the best in difficult times, you are optimistic about the future and in general, you expect more good things to happen than bad" (optimism). (Cronbach's alpha ($\alpha = 0.81$), and McDonald's omega ($\omega = 0.81$))

Healthy Organisational Outcomes

Healthy Organisational Outcomes were measured using items from the HERO questionnaire subscale by the same name including a single item each for commitment, extra-role, and in-role performance (Salanova et al., 2012, 2019). Each one of these elements was represented by a single item, this was due to factor loadings where they fitted best as observed variables. Participants answered using a seven-point frequency type scale with scores from 0 (never) to 6 (always). Sample items include "Degree to which your work tasks are carried out and fulfilled" (in-role performance), "Degree to which tasks that exceed what is prescribed by your work are performed" (extra-role performance), "Degree to which you feel committed to the health centre and its outcomes, how proud you feel to belong there" (commitment).

Data Analyses

First, to test the Hypothesis 1, Multiple Analyses of Variance (MANOVA) were performed with IBM SPSS Statistics 28.0 to test for significant differences in the study variables according to gender (women and men). For these analyses, the general database of 1420 HCPs (78.6% women and 21.4% men) was used. Subsequently, chi-square tests (χ^2) and t-tests were performed, where significant differences in favour of women were found. Based on

Yoon & Lai (2018), who mention that groups that are very unbalanced can alter the results, the decision was made to randomise the sample to 606 HCPs (N = 303 men, N = 303 women). The random sample of women and men was performed using the R 4.1.0 sample function (R Core Team, 2020).

Considering that the database has a higher percentage of women, it was decided to use the women (N = 1117) to test the rest of the hypothesis, so descriptive and correlation analyses were the second step. Reliability was estimated with Cronbach's alpha and McDonald's hierarchical omega coefficients (Peters, 2014). Afterwards, several different models were examined using a structural equation modelling approach (SEM) with maximum likelihood estimation in SPSS AMOS 26. To establish goodness of fit we calculated relative and absolute fit-indexes, specifically, chi-squared (χ^2) and normed chi-squared (χ^2/df), root–mean–squared error of approximation (RMSEA) with upper and lower confidence intervals, Tucker Lewis Index (TLI), and Comparative Fit Index (CFI) following the cut-off points suggested by Schreiber (2017). We also calculated the indirect effects of the different mediation paths, their statistical significance and confidence intervals using R package for causal mediation analysis (Tingley et al., 2014).

To test our proposed hypotheses, we established six different SEM models of increasing complexity with the female sample. For Hypothesis 2, we first established Model 1 (M1) where we tested the partial mediating role of Compassion towards others between Social Job Resources and Healthy Employees. Model 2 (M2) tested the full mediating role of Compassion towards others between Social Job Resources and Healthy Employees as an alternative model to M1.

Next, to test Hypothesis 3 we established Model 3 (M3) which was built upon M1 and extended it including the partial mediating role of Compassion towards others between Social Job Resources and Healthy Organisational Outcomes. In Model 4 (M4) we tested the full mediation of Compassion towards others between Social Job Resources and Healthy Organisational Outcomes as an alternative model.

Additionally, to test Hypothesis 4 we established Model 6 (M6) that includes the mediation of Healthy Employees between Social Job Resources and Healthy Organisational Outcomes. Compassion towards others, Social Job Resources and Healthy Employees were included as latent variables Healthy Organisational Outcomes were included as three distinct observed variables, namely: in role performance, extra role performance, and organisational commitment (see Figure 1).
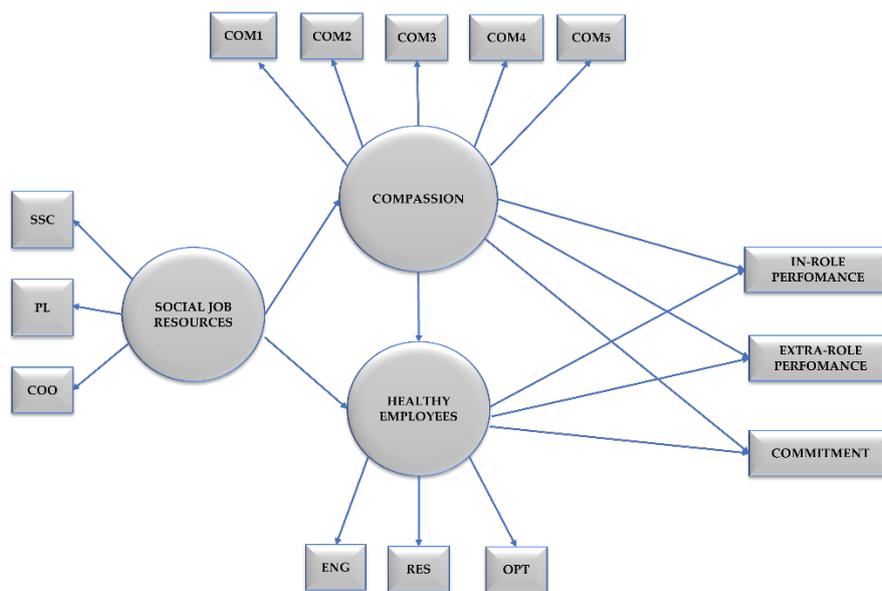
Figure 1

Research model involving Compassion, Social Job Resources, Healthy Employees and Healthy Organisational Outcomes. Note. SSC = Social Support Climate, PL = Positive Leadership, COO = Coordination, COM1 = Compassion Item 1, COM2 = Compassion Item 2, COM3 = Compassion Item 3, COM4 = Compassion Item 4, COM5 = Compassion Item 5, ENG = Engagement, RES = Resilience, OPT = Optimism.

Finally, using the randomised sample of men and women (w = 303, m = 303), structural equation modelling analyses (SEM) were performed using multi-group analysis with SPSS AMOS 26.0 software to test the hypothesised model that assumes that Compassion partially mediates between Social Job Resources, Healthy Employees, and Healthy Organisational Outcomes. To explore gender invariance—following Chen (2008)—we tested for configural (i.e., same structure across groups), metric (i.e., same factor loadings across groups), and scalar invariance (i.e., same intercepts across groups) through multiple–group CFA.

Results

Multiple Analyses of Variance (MANOVA)

First, the MANOVA was performed. Using the random sample, regarding gender (as an independent variable), and the rest of the study variables (Social Job Resources, Compassion, Healthy Employees, and Healthy Organisational Outcomes) as dependent variables. The results showed significant differences between the HCPs of men and women [F (10,595) = 2.047, p < 0.05]. Women also showed significantly higher levels of Compassion [F (1,888) = 10.135, p < 0.05]; mean for women = 4.957, mean for men = 4.763; and positive leadership [F (1,593) = 4.840, p < 0.05]; mean for women = 4.851, mean for men = 4.620.

Descriptive Analyses

Second, Table 1 shows the participant's socio-demographic information. Table 2 shows the means, standard deviations, and intercorrelations of all the variables included in the study (N = 1420), i.e., Compassion (the mean of the 5 items), Social Job Resources (social support, coordination, positive leadership), observed variables of Healthy Organisational Outcomes (in-role performance, extra-role performance, commitment) and healthy employees (work engagement, resilience, optimism). The results show that all variables correlate, except for extra-role performance which has no correlation with resilience, optimism, and Social Job Resources.

Table 1

Sociodemographic information of the participants (N = 1420).

Variables	Demographic Information
Age ranges	14.71% (209) aged 20–29
	28.66% (407) aged 30–39
	32.18% (457) aged 40–49
	17.60% (250) aged 50–59
	6.26% (89) aged 60–75
Job Position	39.64% (563) nurses
	18.45% (262) nursing assistants
	9.92% (141) physicians
	9.71% (138) coordinators/supervisors
	5.28% (75) dieticians and kitchen
	3.87% (55) administrative
	3.16% (45) technicians
	9.92% (141) others (e.g., orderlies, psychologists, midwives, support staff)
Tenure	33.59% (477) one to five years
	18.09% (257) six to 10 years
	16.97% (241) 11 to 15 years
	11.33% (161) 16 to 20 years
	13.52% (192) 21 to 30 years
	6.05% (86) 31 to 45 years
Type of contract	65.63% (932) permanent contract
	22.6% (321) temporary contract
	11.76% (167) another type of contract

Table 2

Descriptive statistics and correlations among all study variables.

	M	SD	1	2	3	4	5	6	7	8	9	10	11
1. Compassion	4.91	0.70	—										
2. Social Job Resources	4.89	0.83	0.11 **	-									
3. Social Support	4.89	1.11	0.12 **	−0.01	-								
4. Coordination	4.99	0.98	0.62 **	−0.05	0.32 **	-							
5. Positive Leadership	4.82	1.24	0.07 *	−0.02	0.28 **	0.83 **	-						
6. In-Role Performance	5.45	0.82	0.09 **	−0.01	0.36 **	0.45 **	0.31 **	-					
7. Extra Role Performance	3.85	1.40	0.02	0.04	0.12 **	0.01	−0.00	0.05	-				
8. Organisational Commitment	4.96	1.14	0.13 **	0.02	0.37 **	0.51 **	0.37 **	0.42 **	0.42 **	-			
9. Healthy Employees	4.66	0.94	0.13 **	−0.01	0.43 **	0.72 **	0.58 **	0.60 **	0.56 **	0.43 **	-		
10. Work Engagement	4.81	1.01	0.14 **	0.02	0.39 **	0.62 **	0.47 **	0.54 **	0.45 **	0.42 **	0.07 *	-	
11. Resilience	4.58	1.11	0.11 **	−0.00	0.35 **	0.61 **	0.50 **	0.51 **	0.47 **	0.36 **	0.03	0.54 **	-
12. Optimism	4.58	1.21	0.09 **	0.00	0.36 **	0.60 **	0.51 **	0.48 **	0.50 **	0.34 **	0.05	0.57 **	0.86 **

Note. M = Mean; SD = Standard Deviation. All scales were measured using a using a 7-point scale. N = 1420. ** $p < 0.01$, * $p < 0.05$.

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Structural Equation Modeling Analyses

In SEM tests for Hypothesis 2, M1 showed good fit indexes, $\chi^2 = 153.688$; df $= 41$; $p < 0.001$; RMSEA $= 0.05$; TLI $= 0.964$ and CFI $= 0.973$. On the other hand, M2 showed less than acceptable fit indexes, $\chi^2 = 503.951$; df $= 42$; $p < 0.001$; RMSEA $= 0.099$; TLI $= 0.858$ and CFI $= 0.891$. Moreover, the mediation effect was significant ($\beta = 0.143$, $p < 0.001$).

For Hypothesis 3 results for M3 showed acceptable fit indexes, $\chi^2 = 190.792$; df $= 40$; $p < 0.001$; RMSEA $= 0.058$; TLI $= 0.933$ and CFI $= 0.951$. M4 showed poorer fit indexes in comparison with M3, $\chi^2 = 328.533$; df $= 43$; $p < 0.001$; RMSEA $= 0.077$; TLI $= 0.882$ and CFI $= 0.907$. Again, all three mediation effects were significant, specifically in-role performance ($\beta = 0.187$, $p < 0.001$), extra-role performance ($\beta = 0.128$, $p < 0.001$) and organisational commitment ($\beta = 0.190$, $p < 0.001$).

Finally, in tests for Hypothesis 4, M5 showed acceptable fit indexes, $\chi^2 = 268$; df $= 71$; $p < 0.001$; RMSEA $= 0.050$; TLI $= 0.952$ and CFI $= 0.963$. In comparison, M6 showed better fit indexes in comparison with M5, $\chi^2 = 233.759$; df $= 68$; $p < 0.001$; RMSEA $= 0.047$; TLI $= 0.958$ and CFI $= 0.969$. Once more, all three mediation effects were significant, specifically in-role performance ($\beta = 0.235$, $p < 0.001$), extra-role performance ($\beta = 0.160$, $p < 0.01$) and organisational commitment ($\beta = 0.827$, $p < 0.001$). A summary for the SEM models fit indexes is presented in Table 3. A diagram for the final SEM model derived from M6 is shown in Figure 2. The final model (M6) shows that Social Job Resources (i.e., social support climate, positive leadership, coordination) explain 23% ($p < 0.01$) of Compassion, and 72% ($p < 0.01$) of Healthy Employees (i.e., engagement, resilience, optimism) is explain by Compassion and Social Job Resources. Compassion and Healthy Employees explain 29% ($p < 0.01$) of in-role performance and 51% ($p < 0.01$) of commitment, while 30% ($p < 0.01$) of extra-role performance is explained by Compassion. See Figure 2.

Table 3

Goodness of fit indexes for tested SEM Models.

Model	χ^2	df	χ^2/df	p	TLI	CFI	RMSEA	Lower	Upper
M1 Partial Mediation	153.688	41	3.75	0.000	0.964	0.973	0.050	0.041	0.058
M2 Full Mediation	503.951	42	11.99	0.000	0.858	0.891	0.099	0.092	0.107
M3 Partial Mediation	190.792	40	4.769	0.000	0.933	0.951	0.058	0.050	0.067
M4 Full Mediation	328.533	43	7.640	0.000	0.882	0.907	0.077	0.069	0.085
M5 Partial Mediation	268.676	71	3.784	0.000	0.952	0.963	0.050	0.044	0.056
M6 Full Mediation	233.759	68	3.437	0.000	0.958	0.969	0.047	0.040	0.053

Note. χ^2 = Chi-square; df = degrees of freedom; χ^2/df = relative Chi-square; p = probability; TLI = Tucker–Lewis Index; CFI= Comparative Fit Index; RMSEA = Root Mean Square Error of Approximation.
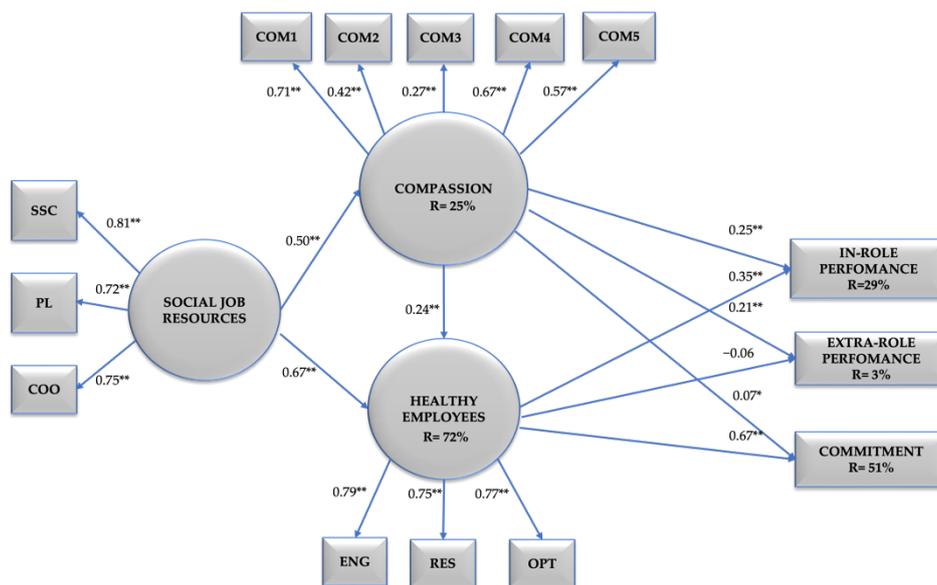
Figure 2

Final model. Structural Model of Compassion, Social Job Resources, Healthy Employees and Healthy Organisational Outcomes in women (N = 1117). Note. SSC = Social Support Climate, PL = Positive Leadership, COO = Coordination, COM1 = Compassion Item 1, COM2 = Compassion Item 2, COM3 = Compassion Item 3, COM4 = Compassion Item 4, COM5 = Compassion Item 5, ENG = Engagement, RES = Resilience, OPT = Optimism. ** p < 0.01, * p < 0.05.

Multiple-Group Configural Factor Analyses

Additionally, we conducted invariance analysis comparing the stability of the factor structure of our final SEM model (M6) between participants from different gender groups. Results are shown in Table 4.

Table 4

Fit indexes for single group and multi-group SEM Model 6.

	χ^2	df	χ^2/df	RMSEA	90% CI	CFI	TLI	SRMR	CMs	$\Delta\chi^2$ (Δ df)	ΔCFI	ΔSRMR
Single Group SEM												
M6	157.890 **	69	2.288	0.046	[0.037, 0.056]	0.973	0.964	0.032	-	-	-	-
Multiple Group (Gender)												
M6.1 configural invariance	337.390 **	186	1.814	0.037	[0.030, 0.043]	0.954	0.955	0.046	-	-	-	-
M6.2 metric invariance	380.419 **	187	2.034	0.041	[0.035, 0.047]	0.941	0.943	0.052	M6.1–M6.2	43.029 (1) **	0.013	0.006

Note. ** $p < 0.001$; χ^2, Chi-square; df, degree of freedom; RMSEA, Root Mean Square Error of Approximation; CI, 90% confidence interval; CFI, comparative fit index; TLI = Tucker–Lewis Index; SRMR, Standardised Root Means Square Residual; CMs, Comparisons between Models.

The baseline model (M6.1) showed adequate fit supporting configural invariance. Next,

constraints were imposed on all factor loadings making them equal to examine metric

invariance. The resulting model also showed adequate fit indexes (see M6.2). Comparison

between M6.1 and M6.2 yielded a significant chi-squared difference test. As for the CFI and

SRMR indexes, the differences were slightly above the 0.01 threshold for CFI and below for the

SRMR; thus, metric invariance was only partially supported. Since the criteria for metric

invariance were not met, we did not test for stricter scalar invariance models. The results of this

final multiple-group model are shown in Figure 3. For women, Social Job Resources (i.e., social

support climate, positive leadership, coordination) explain 37% ($p < 0.01$) of Compassion, and

76% ($p < 0.01$) of Healthy Employees (i.e., engagement, resilience, optimism) is explained by

Compassion and Social Job Resources. Compassion and Healthy Employees explain 27% ($p <$

0.01) of In-role Performance and 4% ($p < 0.01$) of Extra-role Performance, while 53% ($p <$

0.01) of Commitment is explained by Compassion. For men, Social Job Resources explain 35%

($p < 0.01$) of Compassion, and 79% ($p < 0.01$) of Healthy Employees is explained by

Compassion and Social Job Resources. Compassion and Healthy Employees explain 31% ($p <$

0.01) of In-role Performance and 5% ($p < 0.01$) of Extra-role Performance, while Healthy

Employees explain the 61% ($p < 0.01$) of Commitment. See Figure 3.
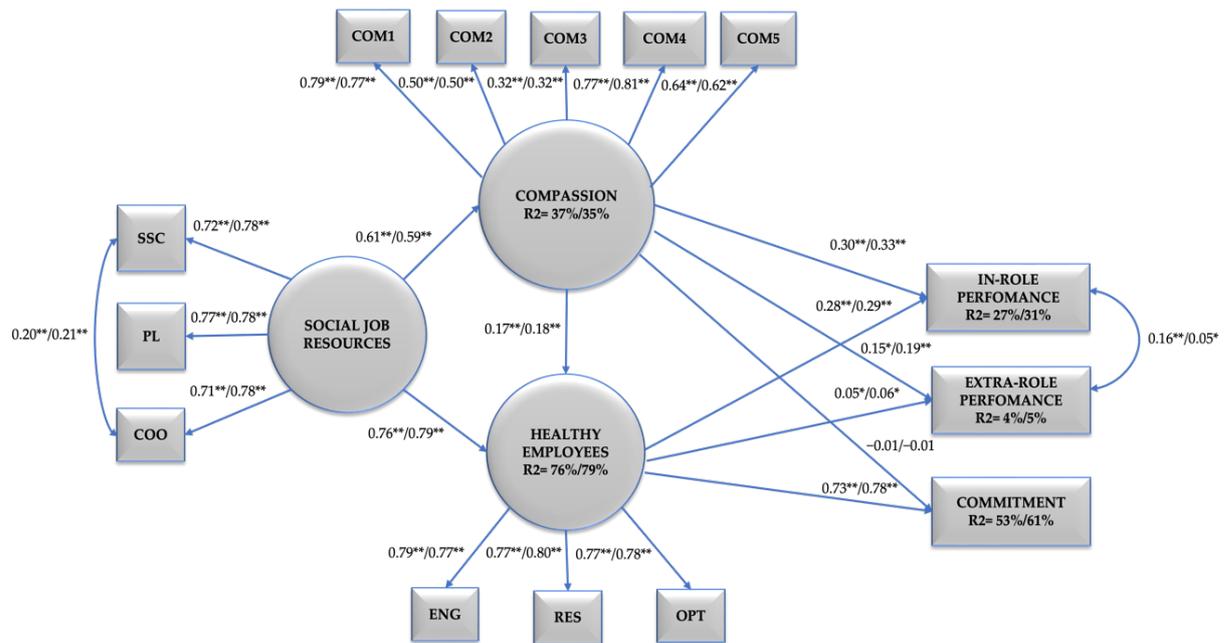
Figure 3

*Final Model: Structural Model of Compassion, Social Job Resources, Healthy Employees and Healthy Organisational Outcomes in two samples, Women (N = 303) and Men (N = 303). Note. SSC = Social Support Climate, PL = Positive Leadership, COO = Coordination, COM1 = Compassion Item 1, COM2 = Compassion Item 2, COM3 = Compassion Item 3, COM4 = Compassion Item 4, COM5 = Compassion Item 5, ENG = Engagement, RES = Resilience, OPT = Optimism, IP = Intra-Role Performance, EP = Extra-Role Performance, COMM = Commitment. ** p < 0.01, * p < 0.05. The data on the left of the bar correspond to women and those on the right to men.*

Discussion

The present study examined the role of Compassion towards others as a mediator between Social Job Resources, measures of employee mental health and performance, taking into account gender perspective in a sample of HCPs. The results suggest that women are more compassionate than men and, furthermore that Compassion towards others acts as a mediator between Social Job Resources such as coordination, positive leadership and social support climate, and workers' mental health indicators such as work engagement, optimism, resilience, and performance just as in and extra role performance, and organisational commitment.

The current study makes an innovative contribution to the limited research examining Compassion towards others as a personal resource and mediator between Social Job Resources, Healthy Employees, and Healthy Organisational Outcomes. Based on the HERO model

(Salanova et al., 2012), we hypothesised and found that Compassion towards others has a positive relationship with Social Job Resources, Healthy Employees, and Healthy Organisational Outcomes. Moreover, it can be suggested that the happy-and-productive worker thesis (Wright & Cropanzano, 2007) can also be reflected in the healthcare sector, where the higher the levels of Compassion, the greater the well-being, with better organisational results being a positive consequence.

The first hypothesis has been fulfilled, confirming that women are more compassionate that men. The results are in line with the studies conducted by Oruç et al. (2020) and Arkan et al. (2020), where the authors found that women, due to gender-specific characteristics (i.e., emotional structure and maternal spirit), tend to be more compassionate than men. Secondly, our second hypothesis reported that Compassion towards others partially mediates the positive relationship between Social Job Resources (social support climate, coordination, and positive leadership) and Healthy Employees (engagement, resilience, and optimism). Our study supports the statement by Kanov et al. (2004) about Compassion being a mediator that benefits access and extends social resources that can be deployed in the workplace. This is clearly reflected in the model that we propose, where HCPs who are compassionate towards patients, relatives, and companions feel higher levels of Social Job Resources (i.e., social support climate, coordination, and positive leadership). Moreover, our results can be related to the study by Cosley et al. (2010), where the authors found that Compassion increases the ability to make use of social support, and to the study conducted by Condon (2019) that indicates that Compassion towards others increases prosocial behaviours.

Besides, our study also showed that Compassion towards others also mediates the relation between Social Job Resources and Healthy Organisational Outcomes (extra-role performance, in-role performance, and commitment) which confirms our third hypothesis. Our results also reinforce the statement by Lilius et al. (2012), showing that Compassion towards others reinforces commitment to the organisation and reveals that a higher level of Compassion towards others increases job performance in the organisation, as well as in-role and extra-role performance.

Subsequently, regarding our fourth hypothesis, a replica of part of the relations proposed in the HERO model (Salanova et al., 2012), the results confirmed the positive relationship between Social Job Resources, Healthy Employees, and Healthy Organisational Outcomes in the healthcare sector. This model proposes that the organisations that encourage healthy resources have also Healthy Employees and workgroups that enjoy high psychosocial well-being.

Finally, with the results obtained in the multi-group analyses, the first hypothesis was reaffirmed, showing that women do perceive higher levels of Compassion than men.

Conclusions

In conclusion, this study suggests the importance of developing social resources at work to increase Compassion for others, which can bring benefits to the well-being of HCPs, and can lead to them being happier and more productive at work. In addition, it can bring benefits to organisations as the study shows that they are more engaged, and their productivity can be higher. In addition, being compassionate leads them to better cope with work demands. Finally, differences in gender perspective have been found, showing that women tend to perceive higher levels of Compassion than men.

Theoretical Contributions

This article makes several contributions for our understanding of the role that Compassion towards others and the positive relationships it can have in the healthcare context with a gender perspective. Moreover, this study supports the HERO Model, incorporating for the first time the role of Compassion towards others as a personal resource and its impact on Healthy Employees (i.e., engagement, resilience, and optimism) and Healthy Organisational Outcomes (i.e., in-role and extra-role performance and commitment).

Secondly, this study showed that Compassion towards others increases happiness levels. This is an important contribution as happiness leads to many positive outcomes, such as positive mental health, and supports better relationships with co-workers (Dutton et al., 2010; Lyubomirsky et al., 2005). It thereby improves productivity and engagement levels among colleagues (Bakker, 2011; Lilius et al., 2008). This is also related to when compassionate

behaviour is exhibited by the HCPs and supported by organisational processes, the organisation reaches higher levels of Healthy Organisational Outcomes.

Regarding the differences between gender, we analysed the differences between women and men, and the results demonstrated that women are more compassionate than men. Finally, we also tested the direct effect between Social Job Resources and Healthy Employees, and the results showed that Job Social Resources improve well-being (i.e., engagement, resilience, optimism) and provide the necessary tools to counter the job demands in the healthcare context.

Practical Implications

Though much importance has been given to the need of Compassion in healthcare in recent years (Sinclair, Norris, et al., 2016), healthcare organisations should also be concerned with promoting their employees' well-being, providing them with the tools and resources to face day-to-day situations. Situations related to the organisational structure may impede workers from profiting from specific job resources (Schaufeli & Taris, 2014), which is why it is important to develop personal resources, such as Compassion towards others that, in addition to having recognition and gratitude for their work, helps employees to provide quality service to their patients (Mauno et al., 2016). Similarly, when patients feel that their clinician actively listens without interrupting, and is kind and generous, this certainly has a positive impact on the quality of care (Hashim, 2017).

Based on the results of this study, we propose a way to develop and conduct interventions to increase Compassion in the healthcare context. For instance, increasing Compassion towards others as a personal resource not only has benefits for oneself but can help to transfer those resources into the workplace. Furthermore, Compassion is an important social resource in personal development that can increase the likelihood of prosocial behaviours that go beyond oneself and move towards others (Ekman & Ekman, 2017). Aligned with our results, these conclusions suggest that interventions should focus on prosocial behaviours. In addition, this study showed that Compassion can be significantly affected by gender.

Lastly, this study shows that, while HCPs have higher levels of well-being at work, and the healthcare organisation enhances the Social Job Resources, this has a positive consequence on their job performance and on their commitment to the organisation.

Limitations and Future Research

Even though we obtained interesting results, the present study has numerous limitations. The first limitation is that the data is cross-sectional. Despite SEM analysis, precisely that proposed in M6, and while the model offers information about the probable direction of the relationships, the cross-sectional study does not allow us to identify or confirm predictive conclusions about the causal order of the variables studied. Future research should focus on performing longitudinal studies with the objective of discovering the causal order between the study variables.

Second, the Brief Compassion Scale (Amutio et al., 2018; Pommier et al., 2020) has a moderate Cronbach's Alpha ($\alpha = 0.65$) and is above the acceptable limit (Brown, 2002). Furthermore, Loewenthal (1996) suggests that for scales with less than 10 items, a score of 0.60 can be considered acceptable. This can be seen as a limitation as other authors disagree with this and consider 0.70 to be the acceptable limit (Kaplan & Saccuzzo, 2017; Nunnally & Bernstein, 1994). In this study, if one of the lower scoring items is removed, the scale will be left without the dimension of common humanity, which is one of the constructs that make up Compassion. For this reason, it was decided to maintain the entire scale.

Third, currently there is a global health crisis caused by the Coronavirus Disease (COVID-19), that has resulted in HCPs being on the frontline for more than two years. This situation has generated high levels of stress, anxiety, and depressive symptoms. Barello and Graffigna (2020) suggest that providing HCPs with tools to cope with such stressful situations can help them to remain resourceful and determined in the workplace. The data collection of this study was carried out in pre-pandemic times, where the workload surely had no comparison to what is being experienced now. That is why future research could be aimed to conduct studies on Compassion in times of COVID-19 to see the effects it has on both healthcare personnel and patients.

Fourth, the sample is mostly of female staff, who, as mentioned above, represent a high percentage in this sector. For future studies, the gender variable should be considered to assess the differential effects of gender and how this affects Compassion.

Fifth, this is a heterogeneous sample as it includes different HCPs from different departments, hospitals, and job positions. This may be a limitation, as it can be considered that the types of work performed in different positions, departments or services may vary from one another. However, despite these differences, HCPs work in a very similar context, where attention to or care for others (patients, relatives, and co-workers) is of great importance. This study reflects the organisation of an average hospital in Spain, where it could be considered that some job positions would need to have higher levels of compassion due to the type of activity they perform. For this reason, comparisons could be made between different services and professional profiles within the same hospital or different hospitals.

Sixth, this study looks at Compassion only in an interindividual way, that is, on a social level as prosocial behaviours. Future studies could focus on the group or team perspective considering the affective level and the relationships between peers. Moreover, it might be interesting to see how Compassion from a group perspective affects work demands (i.e., burnout).

Finally, due to the lack of studies that implement interventions in the healthcare context, we propose to carry out empirical studies testing the model with the variables outlined in this study in order to increase the levels of Compassion in HCPs.

CHAPTER 3

A Multilevel Model of Compassion in Healthcare Organisations

CHAPTER 3

A Multilevel Model of Compassion in Healthcare Organisations[2]

Abstract

In this study, we analyse compassion as a psychological mechanism that can explain how the demands and job social resources are related to well-being (i.e., engagement and burnout) considering the multilevel nature of organisations (i.e., individual and group/team level). We tested our hypotheses through hierarchical linear model analysis (cross-level effects and cross-level interactions) in a sample of 714 healthcare professionals nested in 35 teams from different public and private hospitals in Spain. The results showed that the job social resources have a cross-level effect with compassion if it is controlled by the relationship between job demands and compassion. Moreover, job social resources have a cross-level effect with engagement if it is controlled by the relationship between compassion and engagement. Finally, job social resources have a cross-level effect on burnout if it is controlled for the relationship between compassion and burnout. However, there is no cross-level interaction between the study variables. It seems that compassion has a protective role in decreasing levels of job demands and burnout, as well as promoting high levels of engagement. The findings could provide insights into how to conduct interventions in healthcare organisations to increase job social resources at the group/team level and in turn promote compassion among healthcare professionals.

Keywords: compassion; engagement; burnout; healthcare; multilevel study

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[2] Chapter 3 has been submitted as: San Román-Niaves, M., Llorens, S., De Angelis, M., Coo, C. & Salanova, M. (under review). A Multilevel Model of Compassion in Healthcare Organisations.

Introduction

Compassion can be defined as "a motivation that orientates to a sensitivity to suffering in self and others with a high commitment to try to alleviate and prevent it" (Gilbert & Choden, 2013). In recent years, the topic of compassion has become popular in organisational research due to it is an essential aspect of life but often overlooked within organisations (Dutton et al., 2007). However, organisations can be places of suffering and pain; nevertheless, they can also be places of healing where care and compassion are given and received (Frost et al., 2000). Literature has shown that high levels of compassion can be beneficial to organisations since it can lead to a renewal of resources (such as trust and quality of personal relations), strengthening of shared values (e.g., respect, value for the common good), development of relational skills, increased well-being (i.e., more engagement and less burnout), and improved performance (Dutton et al., 2007).

In particular, compassion has proven relevant in the healthcare sector (Sinclair, McClement, et al., 2016), and consist in two elements: a deep awareness and commitment to gain knowledge of an individual's suffering and a desire to alleviate the suffering (Chochinov, 2007b). Compassion also involves four aspects, including recognising suffering, acknowledging the universality of human suffering, empathising with the person experiencing suffer, facing and tolerating uncomfortable emotions, and being motivated to act or taking action to relieve suffering (Strauss et al., 2016).

Healthcare professionals (HCPs) are constantly exposed to stressful situations due to the complex care and patient care services (Gomez-Urquiza et al., 2016), excessive workload (Halifax, 2011), burnout (Adriaenssens et al., 2015), and situations of aggression among colleagues, patients, and family members (World Health Organisation & International Labour Organisation, 2018). In the face of these challenges, compassion can help HCPs increase their self-esteem and appreciation for their work and to provide a high-quality care service (Mauno et al., 2016). It can also reduce perceived stress, anxiety, depression, burnout, and improve emotion regulation (Orellana-Rios et al., 2017). In essence words, compassion seems to be a useful resource that HCPs can deploy to deal with challenges at work, manage stress and

promote well-being, and, in turn, contribute to building healthy and positive healthcare organisations.

About psychologically healthy workplaces, Salanova and colleagues (Salanova et al., 2012, 2019) suggest that HEalthy and Resilient Organisations (HEROs) are "those organisations that develop systematic, planned and proactive efforts to improve their psychosocial and financial health, through healthy practices and resources to improve at the task level, social and organisational environment, especially in crisis situations and sudden changes". The HERO model (Salanova et al., 2012) describes that personal and social resources must be deployed in situations of excessive job demands to avoid the deterioration of health, motivation, and performance. In the model, compassion is categorised as a resource, which has been demonstrated to positively affect the three variables of the model (i.e., organisational practices and resources, healthy employees, and healthy organisational outcomes).

In other words, it has a positive impact both on the organisational resources, such as engagement, resilience, and optimism and on the organisational outcomes, like in-role and extra-role performance and commitment (San Román-Niaves et al., 2022). Including compassion as a personal resource is an extension of the HERO Model that has so far assessed mental and emotional competencies and efficacy beliefs. A previous study in healthcare samples shows the key role of compassion as a personal resource in improving well-being and healthy organisational outcomes using structural equation modeling analysis (San Román-Niaves et al., 2022). This study goes a step further by testing the effect of compassion as a personal resource in multilevel research design which is the essence of the HERO Model that considers the multilevel nature of organisations (individual, group, leader, organisation).

Compassion as a resource can be linked to the Job Demands and Resources Model (JD-R; Bakker & Demerouti, 2014), which states that the presence of job demands and job resources in the work environment has a significant impact on employee well-being. In one hand propose that high job demands, if not balanced to by sufficient job resources, can lead to negative outcomes (e. g., burnout, stress). On the other hand, the presence of job resources, (e. g., social support, autonomy, communication) can buffer the negative effects of job demands and foster

positive outcomes (e. g., work engagement, increased job satisfaction)/ According to research findings, among personal resources, compassion has been identified as a crucial factor for HCP's (Bramley & Matiti, 2014).

Personal resources are psychological characteristics associated with resilience and the ability to control and positively impact one's own environment, which helps employees to achieve their goals and encourage personal and professional development (Schaufeli & Taris, 2014). Moreover, compassion is an important factor against burnout and empathetic distress, and it has a positive impact on the quality of care and patient's health (Klimecki & Singer, 2012). These personal resources often cross among group members, when there are actual and potential resources losses are conceptualised as key sources of stress in individuals' lives (Hobfoll et al., 2018).

As was mentioned before, we can understand compassion is a kind of psychological mechanism that mediates between resources (job, social), job demands, and organisational outcomes, such as performance, all of them in multilevel systems like organisations are. For this reason, recent findings have addressed the need to identify resources at different organisational levels and have called for actions to reinforce resources at four levels: Individual, Group, Leader, and the Organisational level (also known as the IGLO model), for developing studies to promote the health and wellbeing of employees and the performance at each level of the (multilevel) organisation (Day & Nielsen, 2017; Nielsen et al., 2017).

Despite the above, the literature lacks studies conducted to investigate the effect of Compassion as an individual-level personal resource and as a team/group-level resource among members of the same team. In this regard, the present study aims to explore the psychological mechanism of compassion by conducting a multilevel study. Specifically, it aims to examine how compassion operates at two different levels (i.e., individual and group/team level) and to examine the extent to which similar psychological mechanisms are at work at both levels. For this reason, the aim of this study is to analyse how job demands and social job resources are linked to the psychological well-being of individuals (i.e., burnout and engagement), by considering compassion as the psychological mechanism. Our study recognised the multilevel

nature of organisations, more specifically at the group/team level, and seek to shed light on this mechanism and its potential positive effects on both individuals and the organisation as a whole.

Job Social Resources, Job Demands and Compassion

As widely reported in the literature, HCPs are exposed to many factors that put their well-being at risk, such as managing high workloads and high patient numbers, making complex decisions, responding to traumatic situations, and dealing with the pressing demands from patients and their families, or companions (Adriaenssens et al., 2015; Happell et al., 2013). These factors can be considered job demands, which are defined as "those physical, psychological, social, or organisational aspects of the job that require sustained physical and/or psychological (cognitive and emotional) effort or skills and are therefore associated with certain physiological and/or psychological costs" (Bakker & Demerouti, 2007).

It has been shown that experiencing high levels of job demands at work can lead to adverse physical and psychological consequences such as sleep problems, negative attitudes towards work or job dissatisfaction. Moreover, it has also been demonstrated that job demands can affect psychological resilience. Several studies have shown that higher levels of job demands are associated with lower levels of resilience (Hernandez et al., 2016; Meneghel et al., 2016; Ren et al., 2018; Yu & Lee, 2018). From an organisational perspective, these adverse consequences at the individual level can accumulate over time and manifest as various negative organisational outcomes such as sick leave, high levels of turnover and decreased job performance (Jimmieson et al., 2017).

To prevent job demands from negatively impacting the well-being of healthcare HCPs, it is crucial to focus on the development of personal resources. According to the JD-R model (Bakker & Demerouti, 2014; Demerouti & Bakker, 2022) personal resources act as buffers against the detrimental effects of job demands, promoting resilience and well-being. Moreover, the job social resources have been cited as being crucial and protective among the resources that can help with managing job demands. According to Demerouti and colleagues (Demerouti et al., 2001), the job social resources include all interpersonal elements of the work setting, such as the emotional and instrumental support of supervisors and work colleagues. Examples of job social

resources include positive leadership, social support climate and coordination. These resources can help to mitigate the negative effects of job demands and promote well-being among healthcare workers.

Current research indicates that job demands may have a negative impact on employee performance. Emotional overload has drawn a lot of focus among these demands. As a personal resource, compassion may act as a buffer against the detrimental impacts of emotional overload on employee well-being, according to Kinman and Grant (2020) theory. This idea is consistent with earlier research showing that fostering compassion can function as a buffer against demands (Brito-Pons et al., 2018). Additionally, compassion has been associated with several advantages, including decreases in perceived stress and increases in indicators of well-being (Orellana-Rios et al., 2017; Scarlet et al., 2017). Thus, the current research emphasises the significance of compassion as a personal asset that can lessen the negative effects of job demands and foster productive employee outcomes.

In brief, extant literature indicates that increased levels of job demands can result in a depletion of personal resources among employees. Consequently, it is reasonable to anticipate a negative correlation between job demands and compassion. Conversely, the availability of robust job social resources at the team-level can alleviate such adverse associations. Thus, we expect that:

Hypothesis 1 (H1): Aggregated group/team-level job social resources are positively related to compassion, once the negative (individual-level) relationship between job demands and compassion has been controlled for.

Hypothesis 2 (H2): Aggregated group/team-level job social resources moderate the negative relationship between job demands and compassion so that the relationship will be weaker the higher the job social resources of the group/team.

In Figure 1, we draw the model and specific hypotheses tested for H1 and H2.
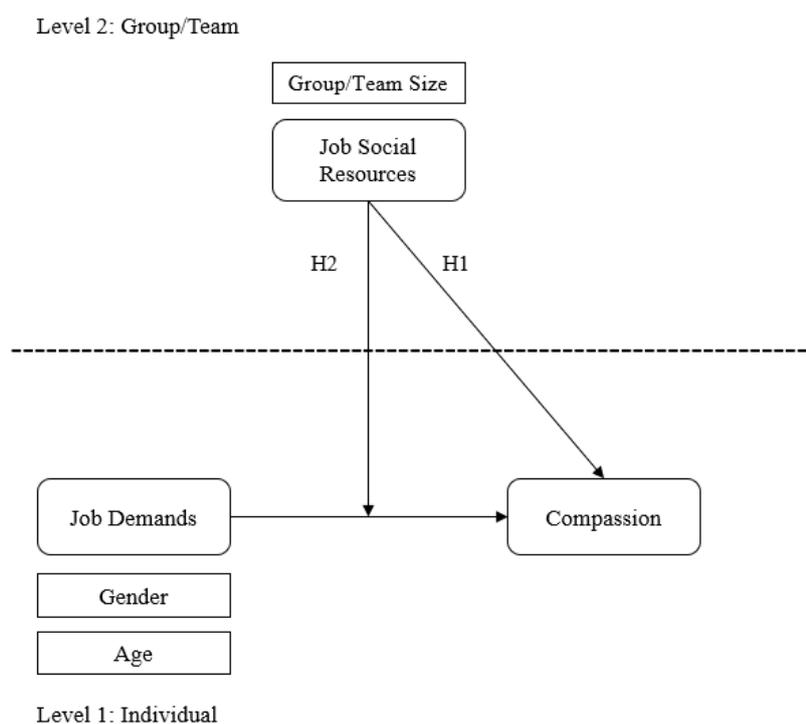
Figure 1

Research model involving the relationship between individual (job demands and compassion) and group/team-level (job social resources) variables.

Job Social Resources, Compassion, Engagement and Burnout

Two different viewpoints on employee well-being have emerged within the wider field of organisational psychology. One perspective emphasised the positive aspects of well-being, such as work engagement. The term "engagement" refers to a positive state of motivation and commitment at work, which is characterised by a high level of energy, dedication, and absorption in work activities (Schaufeli, 2015). According to research, improving work engagement is essential for improving employee well-being, job happiness, and a variety of beneficial workplace outcomes including productivity, work quality, and life satisfaction (Demerouti & Bakker, 2022).

The focus of the opposing viewpoint, which emphasises the unfavourable elements of employee well-being, is burnout. Burnout refers to a state of emotional exhaustion, depersonalisation, and a decrease in personal fulfilment at work (Maslach & Jackson, 1981). Burnout has been shown to be a prevalent problem among HCPs due to their ongoing and chronic exposure to high work stress (Romani & Ashkar, 2014).

Both viewpoints have considered opposites of the same continuum, with "activation" and "identification" as the two opposing poles (Schaufeli et al., 2008). At the activation pole are components of burnout as fatigue and emotional exhaustion, and vigor as a component of engagement. On the other hand, the identification pole is made up of cynicism (i.e., a component of burnout) and dedication (i.e., a component of engagement; Llorens et al., 2022). It can be deduced from the above that both concepts are closely related. In fact, it has been demonstrated that high levels of engagement can protect against the development of burnout (Bakker & Demerouti, 2014). Conversely, a decrease in engagement has been linked to an increased risk of developing burnout (Bakker & Demerouti, 2007).

Therefore, this study seeks to test two models of Compassion where Job Social Resources act as moderators. In the first model, Compassion and Job Social Resources are associated with Engagement and in the second model, Burnout has been considered as an outcome. In other words, Compassion as a personal resource, together with job social resources, can also improve the perception or the way HCPs cope with their job demands and ultimately act as a positive psychological mechanism that can lead to an optimal level of work engagement and reduced level of burnout.

Job Social Resources, Compassion and Engagement

The relationship between social resources and engagement is widely regarded as an essential aspect of occupational health psychology. Job social resources, including social support and positive interpersonal relationships, have been linked to increased work engagement and reduced job stress (Bakker & Demerouti, 2007). For this reason, Compassion can play an important role in the relationship between job social resources and engagement.

In the work context, compassion can act as a personal resource and contribute to greater engagement, since it increases the feeling of belonging and meaning at work (Dutton et al., 2014). Notably, research has consistently shown that healthcare professionals who possess the ability to be compassionate achieve better outcomes, including higher level of patient satisfaction, better quality doctor-patient interactions, and improved long-term outcomes for patients, both physically and psychologically (Fogarty et al., 1999). Also, Compassion had been

closely related to engagement, especially when facing challenging work tasks (García-Sierra et al., 2016). Additionally, HPCs who are compassionate reported higher level of work engagement (Deao, 2017).

In summary, personal resources, including compassion, and job social resources can significantly influence work engagement by providing support and meaning at work, reducing stress, and guarding against emotional exhaustion. Therefore, it could be an important role in work engagement by providing support and meaning at work, reducing stress, and protecting against emotional exhaustion. Therefore, it could be hypothesised that the positive effect of compassion on work engagement could be stronger whenever employees (such as HCPs) belong to a team with positive and supportive interpersonal relationship (i.e., high level of job social resources).

Hypothesis 3 (H3): Aggregated group/team-level job social resources are positively related to engagement, once the positive (individual-level) relationship between compassion and engagement has been controlled for.

Hypothesis 4 (H4): Aggregated group/team-level job social resources moderate the positive relationship between individual compassion and individual engagement, so that the relationship will be stronger the higher the job social resources of the group/team.

In Figure 2, we draw the model and specific hypotheses tested for H3 and H4.
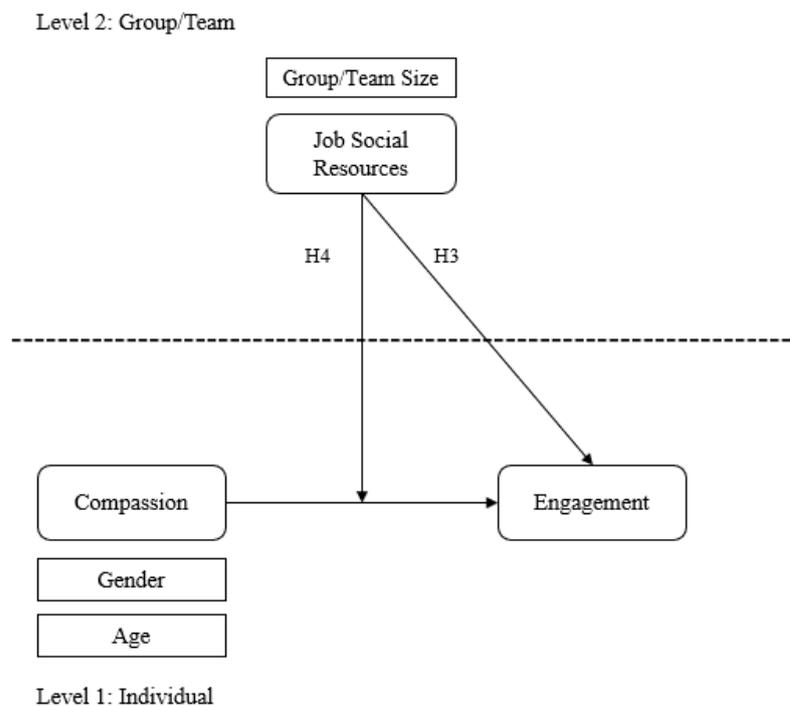
Figure 2

Research model involving the relationship between individual (compassion and engagement) and group/team-level (job social resources) variables.

Job Social Resources, Compassion and Burnout

Burnout can be understood as a variable of detrimental of well-being, or the negative antipode of work engagement (Schaufeli et al., 2006). Research have proven that HCPs are at risk of developing burnout due to the demanding nature of their work, which includes long working hours, the emotional burden of working with patients and inadequate support in the workplace (C. P. West et al., 2016). In addition, burnout has been linked to reduced quality of patient care and increased medical errors (Hartzband & Groopman, 2020; Panagioti et al., 2018; Shanafelt et al., 2012).

In contrast, research has shown that HCPs who have access to job social resources experience lower levels of burnout and higher levels of job satisfaction (C. P. West et al., 2016). A supportive work environment and access to job social resources can help healthcare workers better manage the demands of their job, reducing the risk of burnout and promoting a compassionate and empathetic approach to patient care (Shanafelt et al., 2012).

However, Lilius et al. (2008, 2011) and Dutton et al. (2014)stated that suffering is a very common condition at work that could contribute burnout. For this reason, Compassion has been identified as a protective factor against burnout, as it can create shared meanings around adverse events or mental states at work that can help to reduce burnout levels (Buonomo et al., 2022). Nonetheless, HCPs who experience high levels of compassion towards their patients are also at greater risk of developing burnout symptoms and compassion fatigue (Thapa et al., 2021). This is because Compassion, while a positive and necessary characteristic of HCPs, can also be emotionally and physically exhausting. For this reason, in addition to compassion, it is necessary to develop other resources that help to buffer the impact of burnout. For example, the job social resources, that include social support from colleagues and superiors can help HCPs to maintain emotional balance in the face of threats and stressful events (Nowicki et al., 2020). Such resources can safeguard mental health and well-being among HCPs (Blanco-Donoso et al., 2020; Chew et al., 2020).

We thus propose that the interplay between job social resources and compassion may help reduce the levels of burnout experienced by HCPs. Therefore, we hypothesise that:

Hypothesis 5 (H5): Aggregated group/team-level job social resources are negatively related to burnout, once the negative (individual-level) relationship between compassion and burnout has been controlled for.

Hypothesis 6 (H6): Aggregated group/team-level job social resources moderate the negative relationship between compassion and burnout, so that the relationship will be weaker the higher the job social resources of the group/team.

In Figure 3, we draw the model and specific hypotheses tested for H5 and H6.
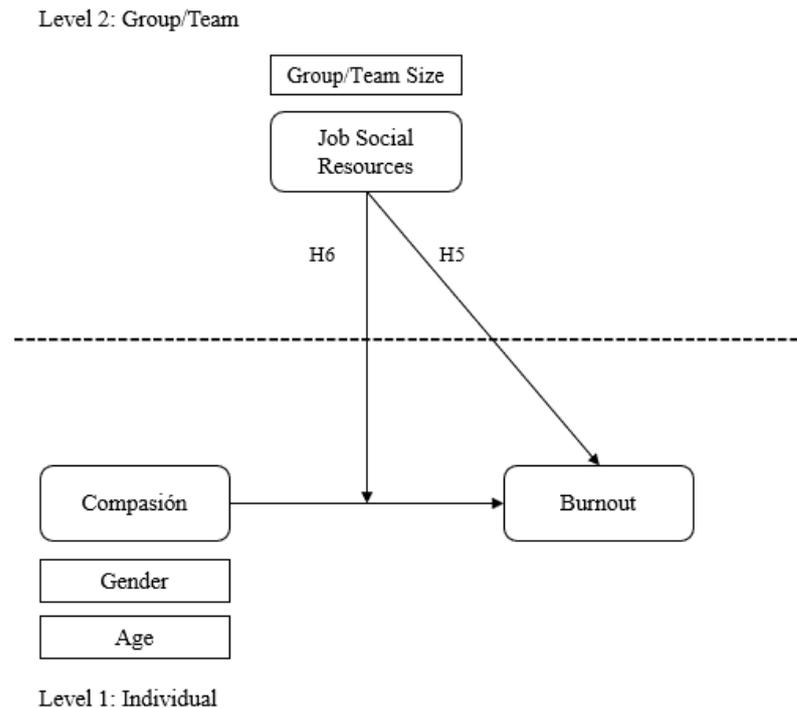
Figure 3

Research model involving the relationship between individual (compassion and burnout) and group/team-level (job social resources) variables.

Materials and Methods

Data Collection

The sample consisted of 714 HCPs (81.2% female and 18.8% male) nested within 35 services/care units (ranging from 5 to 81 members) from 30 public and private hospitals in Spain. Mean age was 43.18 (SD=10.72), average tenure time was 12.94 years (SD=10.19), 62% had an indefinite contract, 25.5% had temporal contracts, and the remaining 12.46% had a variety of different contracts including internships, replacements, and outsourced positions.

The process had two parts: The first part involved reaching out to hospitals through a non-profit organisation that holds an annual national contest to recognise services and care units that have high levels of psychosocial well-being. The contest was advertised through the organisation's website and social media. Interested services and care units had to register and follow the contest rules to be eligible. They also needed to obtain approval from their hospital or department administration. The second part of the process began after the registration deadline

had passed and involved collecting data over a two-month period using the Healthy and

Resilient Organisations (HERO) Questionnaire (Salanova et al., 2012, 2019), which included 5

items from the adaptation in the healthcare context of the Brief Compassion Scale (San Román-

Niaves et al., 2022) and other variables. The questionnaire was distributed to all participants

through a Qualtrics online link and participation was voluntary and participants did not receive

incentives. Each participant provided informed consent and the study was conducted in

accordance with GDPR regulations, with approval from the Jaume l University's Ethics

Committee (CD/57/2020).

Measures

Measures at Individual Level

Compassion was assessed using an adaptation of the Brief Compassion Scale in the

healthcare context (San Román-Niaves et al., 2022) based on the Compassion Scale (Amutio et

al., 2018; Pommier et al., 2020) composed by five items distributed in self-kindness (two items),

common humanity (one item), mindfulness (one item), and non-judgement/forgiveness (one

item). The items are scored on a seven-point frequency rating scale ranging from 0 (never) to 6

(always). Sample items include "If I see that someone is having difficulties, I try to help"

(kindness), "I try not to judge other when they make mistakes or are wrong" (non-

judgement/forgiveness), "I think everyone feels sad sometimes, it is part of being human"

(common humanity), "I usually listen patiently when people tell me about their problems"

(mindfulness). Cronbach's Alpha (α=.62), and McDonald's Omega (ω=.61) indicating a

moderate level of internal consistency.

Job Demands were assessed using the HERO questionnaire sub-scale by the same name

including quantitative overload, qualitative overload, mental overload, emotional overload, role

ambiguity, role conflict, routine, mobbing and emotional dissonance. Each one of these

elements was represented by a single item, where each of these single items is the mean of the

HERO sub-scale (Salanova et al., 2012, 2019). The participants answered using a seven-point

frequency type scale with scores from 0 (never) to 6 (always). Sample items include "Degree to

which you are overwhelmed by the amount of work you have to do, either due to lack of time or

overloaded with tasks" (quantitative overload), "Degree to which work requires a lot of concentration, precision, you have to be aware of different things at the same time and remember them" (mental overload), "Degree to which the work requires you to be emotionally involved, either because you have to deal with clients (patients, relatives, accompaniers), or because you have to persuade or convince others" (emotional overload), "Degree to which you do not clearly perceive the role and tasks you have to perform in your job. You are not sure about what you have to do, how you have to do it and why you have to do it" (role ambiguity), "Degree to which you perceive demands or receive orders that are incompatible and contradictory to each other. That is, in order to do one task, you have to stop doing another" (role conflict), "Degree to which the tasks you perform are not innovative, unchallenging, repetitive and unchanging. Moreover, they do not involve the use of different skills" (routine), "Degree to which you are subjected to hostile and unethical communication on a systematic basis, resulting in a position of vulnerability" (mobbing), "Degree to which you have to express emotions that you don't really feel, or you have to suppress the expression of emotions that you really feel" (emotional dissonance). Cronbach's Alpha (α=.81), and McDonald's Omega (ω=.80) indicating a high level of internal consistency.

Engagement was assessed by the one item included in the HERO questionnaire adapted from the Utrech Work Engagement Scale (UWES; Schaufeli et al., 2006). Sample item include "Degree to which you feel immersed, full of energy, dedicated to your work, creating a positive climate of fulfilment and enthusiasm." The participants answered using a seven-point frequency type scale with scores from 0 (never) to 6 (always).

Burnout was assessed by the one item included in the HERO questionnaire adapted from Maslach Burnout Inventory (Maslach et al., 1997). Sample item include "Degree to which you feel ineffective in your work, uninterested, uninvolved, physically and emotionally exhausted. In addition, you feel insensitive to the people around you (e.g., users: patients, relatives, companions, colleagues)." The participants answered using a seven-point frequency type scale with scores from 0 (never) to 6 (always).

Measures at Group/Team Level

Job Social Resources were assessed using the HERO questionnaire sub-scale by the same name including social support climate, positive leadership, and coordination. Each of these elements was represented by a single item, with the mean of these items comprising the HERO sub-scale (Salanova et al., 2012, 2019). The participants answered using a seven-point frequency scale ranging from 0 (never) to 6 (always). Sample items include "Degree to which your supervisor considers the needs of your service/care unit, recognising the effort and achievement of goals of the service/care unit" (positive leadership), "Degree to which you feel support from your colleagues and supervisor in your personal and professional circumstances" (social support climate) and "Degree to which you are coordinated with your work team, to respond to work situations" (coordination). Cronbach's Alpha (α=.80), and McDonald's Omega (ω=.81) indicating a high level of internal consistency.

Control variables. We included group/team size (the total number of members per group/team) at the group/team level. Gender and age were included as demographic variables at individual level.

Analytical Strategy

In this study, the questionnaire measures four individual-level variables and one group/team-level variable from different sources of information. Using the service/care unit as a reference, the HCPs assessed the job social resources. Compassion, job demands, burnout, and engagement were assessed by HCPs using themselves as a referent.

Since the variables in our research model were aggregates of lower-level shared perception, interrater reliability and interrater agreement indices had to be calculated (LeBreton & Senter, 2008). HCPs agreement was assessed using a one-fold approach: ICC1 was calculated following a consistency-based method. Even though there is no fixed threshold for ICC1, a value of 0.01 can be considered a small effect, a value of 0.10 can be considered a moderate effect, and values greater than 0.25 can be considered a large effect (LeBreton & Senter, 2008). We also analysed different Analyses of Variance (ANOVA) to determine if group discrimination on the variables at the group/team and individual levels was statistically significant. For ICC1,

all the variables had small to moderate effects, and ANOVA analysis revealed significant variable differentiation across groups and individuals (from 0.04 to 0.16) (see Table 1).

In general results showed group/team level agreement regarding HCPs' perceptions of job social resources. Similar to this, aggregation indices demonstrated a sufficient level of agreement for the variables at the individual level, such as compassion, engagement, job demands, and burnout.

Finally, we calculated descriptive and intercorrelations among scales based on the data aggregated at the individual level and the group/team level, respectively.

Table 1

Means, standard deviations, aggregation indices, and intercorrelations among the study variables at the individual level and group/team level (n = 714 HCPs, n = 35 services).

	M	SD	ICC1	1	2	3	4	5	6	7	8
1. Compassion	4.90	0.70	0.04	0.62							
2. Job Demands	2.50	0.91	0.16	-0.18**	0.81	—					
3. Engagement	4.74	1.03	0.10	0.33**	-.39**	—					
4. Burnout	1.47	1.31	0.08	-0.20**	0.53**	-0.48**	—				
5. JSR (individual level)	5.02	0.88	0.06	0.39**	-.39**	0.59**	-0.39**	0.80	—		
6. Gender	1.19	0.39		-0.12**	0.00	-0.07	0.12**	-0.05	—		
7. Age	43.18	10.72	—	-0.23**	0.05	-0.10**	0.02	-0.14**	-0.05	—	
8. Job Social Resources (group/team level)	5.02	0.35	0.07	0.16**	-0.30**	0.31**	-0.25**	0.40**	-0.04	-0.12**	—
9. Team size	35.14	26.22	—	-0.27	0.01	-0.06	0.04	-0.01	-0.05	0.18**	-0.03

Note. M = Mean, SD = Standard Deviation, α = Cronbach·s alpha, ICC1 = Interclass Correlation Coefficient, JSR = Job Social Resources, HCPs = Health Care Professionals, ** p < 0.01.

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Data Analyses

Harman's single factor test (Podsakoff et al., 2003) was performed on the individual study variables to examine for bias, because of common method variance. It is important to note that the dependent variables in our database and the independent variables came from different sources.

For hypothesis 1-6 were tested by means of random coefficient modelling or hierarchical linear modelling (González-Romá & Hernández, 2017; Hox, 2010). The percentage of variance explained by a group of contextual variables is tested using the Intraclass Correlation Coefficient (ICC), a non-independence indicator (Bliese, 2000). The higher the ICC, the better the amount of variability in the dependent variable that can be explained by variables from the higher level of analysis (i.e., in this study is the group/team level). A baseline ANOVA model was performed to evaluate non-independence ICC as a process for comparing models, and to evaluate the variance percentages for the levels involved in the analyses (Hox, 2010).

Six additional models were performed in addition to the baseline ANOVA model, using SPSS 28.0's step-by-step maximum likelihood methodology (Heck et al., 2013; Hox et al., 2017). In order to allow random coefficients to differ between groups/teams, we performed a random-coefficient regression model (Model 1, Model 3, Model 5). The model equation additionally accounted for controls and predictors at the individual level. While taking into account the hierarchical structure of the data and controlling for lower-level covariates, this model provides tests of lower-level predictors. The group/team level predictors were incorporated into the equation for the intercept in the intercepts-as-outcomes model (Model 2, Model 4, Model 6). Individual predictors were grand-mean centred for the random-coefficient regression model, and their intercepts and slopes were permitted to vary between the group/team. The variance in the intercept term under grand-mean centring is an adjusted estimator of the between-groups variance in the results since it considers the individual predictors (Hofmann et al., 2000).

Results

Descriptive analyses

Means, standard deviations, Cronbach's Alphas, McDonald's Omegas among the variables at individual and group/team level are shown in Table 1. Most of the study variables were positively and significantly correlated, instead of the group/team size variable, which is only positively and significantly correlated with age. Also, gender has no correlation with job demands, engagement and with individual and group/team job social resources. Age has no correlation with job demands, burnout, gender, and has a negatively and significantly correlated with group/team level job social resources.

The results of the Harman's single factor test (Podsakoff et al., 2003) of the individual database (N = 714) demonstrated a poor fit of the data, χ^2 (27) = 193.349, p = 0.000, RMSEA = 0.093, CFI = 0.852, NFI = 0.835, TLI = 0.753, IFI = 0.854. Consequently, common method variance is not a serious problem in this study.

Hypothesis Testing

According to Hypothesis 1, aggregated group/team level job social resources are positively related to compassion, once the negative (individual-level) relationship between job demands and compassion has been controlled for. Table 2 includes the results for the hierarchical linear models predicting Compassion. Model 1 included group/team level variables to test the cross-level effects, that is, aggregated job social resources, along with control variables (group/team size) and at the individual level variables of job demands and compassion, along with the control variables (age and gender). Results for Model 1 demonstrate that aggregated job social resources are positively and significantly related to compassion (β = 0.24, p = 0.07), once the negative (individual-level) relationship between job demands and compassion has been controlled for (β = -0.12, p = 0.001). Therefore, Hypothesis 1 was confirmed.

To test Hypothesis 2, aggregated group/team level job social resources moderate the negative relationship between individual job demands and individual compassion, Model 2 included the same variables of Model 1 but considering the cross-level interaction of job social resources on the

relationship between job demands and compassion. Results for Model 2 demonstrate that there is not

cross-level interaction (β = -0.11, p = 0.24). Thus, Hypothesis 2 was not confirmed.

Table 2

Results of the hierarchical linear models predicting compassion (ICC = 4%)

Parameters	Model 1		Model 2	
	β (S.E.)	p	β (S.E.)	p
Intercept	5.75*** (0.13)	<0.001	5.75*** (0.13)	<0.001
Level 1 (individual)				
Job Demands	-0.12*** (0.03)	<0.001	-0.12*** (0.03)	<0.001
Job Demands*JSR			-0.11 (0.10)	0.24
Gender	-0.21*** (0.06)	<0.001	-0.21*** (0.06)	<0.001
Age	-0.01*** (0.00)	<0.001	-0.01*** (0.00)	<0.001
Level 2 (group/team)				
Job Social Resources	0.24** (0.07)	0.01	0.24** (0.07)	0.01
Group/Team size	0.00 (0.00)	0.71	0.00 (0.00)	0.71

Note. ICC = Intraclass Correlation Coefficient, JSR= Job Social Resources, β = beta, S.E. = Standard errors,
*** p < 0.001, **p < 0.01
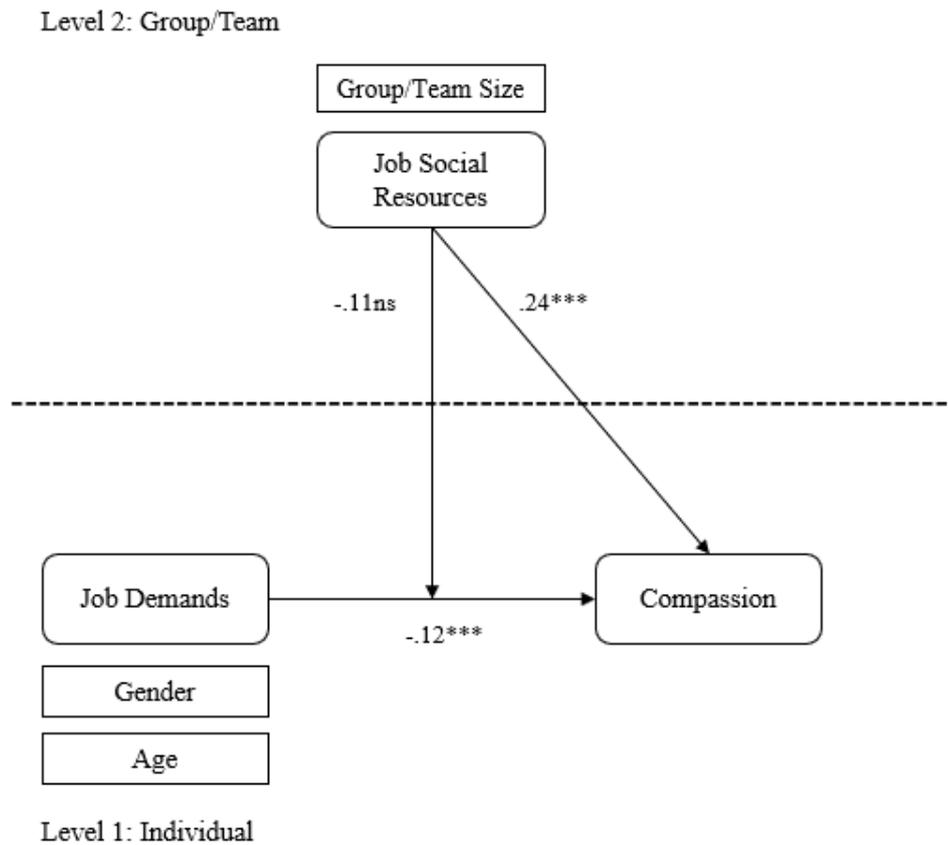
Level 2: Group/Team

Figure 4

Final model including the results of the cross-level effects and the cross-level interaction for job social resources, job demands and compassion.

According to Hypothesis 3, aggregated group/team level job social resources are positively related to engagement, once the positive (individual-level) relationship between compassion and engagement has been controlled for. Table 3 includes results for the hierarchical linear models predicting Engagement. Model 3 included group/team level variables to test the cross-level effects, that is, aggregated job social resources, along with control variables (group/team size) and at the individual level variables of compassion and engagement, along with the control variables (age and gender). Results for Model 3 demonstrated that aggregated job social resources are positively and significantly related to engagement ($\beta = 0.88$, $p = 0.001$), once the negative (individual-level) relationship between compassion and engagement has been controlled for ($\beta = 0.41$, $p = 0.001$). Therefore, Hypothesis 3 was confirmed.

To test Hypothesis 4, aggregated group/team level job social resources moderate the positive relationship between individual compassion and individual engagement, Model 4 included the same

variables of Model 3 but considering the cross-level interaction of job social resources on the

relationship between compassion and engagement. Results for Model 4 demonstrate that there is not

cross-level interaction (β = -0.03, p = 0.85). Thus, Hypothesis 4 was not confirmed.

Table 3

Results of the hierarchical linear models predicting engagement (ICC = 10%)

Parameters	Model 3		Model 4	
	β (S.E.)	p	β (S.E.)	p
Intercept	4.95***(0.19)	<0.001	4.94*** (0.19)	<0.001
Level 1 (individual)				
Compassion	0.41*** (0.05)	<0.001	0.41*** (0.05)	<0.001
JSR*Compassion			-0.03 (0.15)	0.85
Gender	-0.05 (0.09)	0.53	-0.05 (0.09)	0.54
Age	-0.00 (0.00)	0.60	-0.00 (0.00)	0.61
Level 2 (group/team)				
Job Social Resources	0.88*** (0.10)	<0.001	0.88*** (0.10)	<0.001
Group/Team size	-0.00 (0.00)	0.28	-0.00 (0.00)	0.29

Note. ICC = Intraclass Correlation Coefficient, JSR= Job Social Resources, β = beta, S.E. = Standard errors,
*** $p < 0.001$, **$p < 0.01$
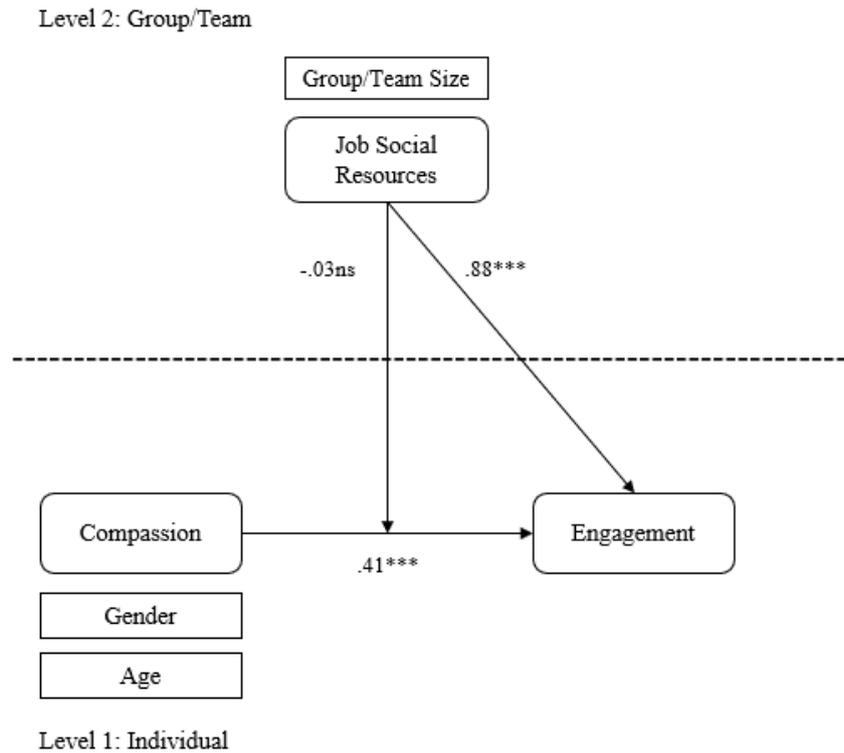
Figure 5

Final model including the results of the cross-level effects and the cross-level interaction for job social resources, compassion, and engagement.

To test Hypothesis 5, aggregated group/team level job social resources are negatively related to burnout, once the negative (individual-level) relationship between compassion and burnout has been controlled for. Table 4 includes results of hierarchical linear models predicting Burnout. Model 5 included group/team level variables to test the cross-level effects, that is, aggregated job social resources, along with control variables (group/team size) and at the individual level variables of compassion and burnout, along with the control variables (age and gender). Results for Model 5 demonstrated that aggregated job social resources are negatively and significantly related to burnout ($\beta = -0.89$, $p = 0.001$), once the negative (individual-level) relationship between compassion and burnout has been controlled for ($\beta = -0.33$, $p = 0.001$). Therefore, Hypothesis 5 was confirmed.

To test Hypothesis 6, aggregated group/team level job social resources moderate the negative relationship between individual compassion and individual burnout, Model 6 included the same variables of Model 5 but considering the cross-level interaction of job social resources on the

relationship between compassion and burnout. Results for Model 6 demonstrate there is not cross-level interaction ($\beta = -0.00$, $p = 0.09$). Thus, Hypothesis 6 was not confirmed.

Table 4

Results of the hierarchical linear models predicting burnout (ICC = 8%)

Parameters	Model 5		Model 6	
	β (S.E.)	*p*	β (S.E.)	*p*
Intercept	1.23*** (0.26)	<0.001	1.23*** (0.26)	<0.001
Level 1 (individual)				
Compassion	-0.33*** (0.07)	<0.001	-0.33*** (0.07)	<0.001
JSR*Compassion			-0.00 (0.20)	0.09
Gender	0.28 (0.12)	0.02	0.28 (0.12)	0.02
Age	-0.03 (0.00)	0.41	-0.03 (0.00)	0.41
Level 2 (group/team)				
Job Social Resources	-0.89*** (0.15)	<0.001	-0.89*** (0.16)	<0.001
Group/Team size	0.00 (0.00)	0.53	0.00 (0.00)	0.53

Note. ICC = Intraclass Correlation Coefficient, JSR= Job Social Resources, β = beta, S.E. = Standard errors,
*** $p < 0.001$, **$p < 0.01$
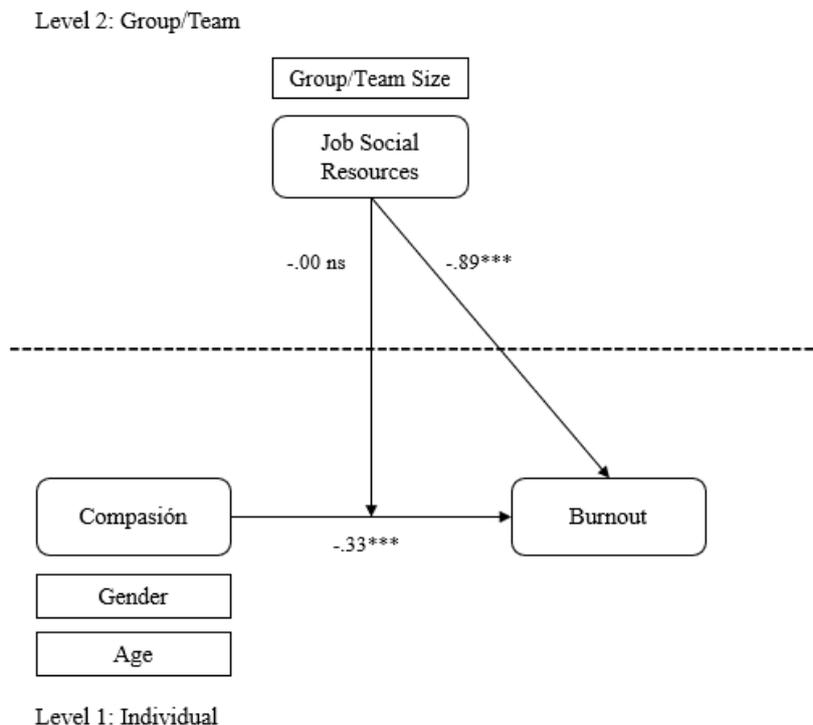
**Figure 6**

Final model including the results of the cross-level effects and the cross-level interaction for job social resources, compassion, and burnout.

Discussion

The present research examined the effects of job demands, compassion, and job social resources on employee engagement and burnout at the individual and group/team levels. The study found mixed support for the different hypotheses, and the following discussion will delve into relevant literature to shed light on these results. The first hypothesis was confirmed, suggesting that aggregated job social resources (group/team-level) are positively related to compassion, once the negative (individual-level) relationship between job demands and compassion has been controlled for. One explanation for this finding is that people's capacity to express, feel and give compassion may be impaired by stress as a result of high job demands (Sapolsky, 2004). High demands on the workplace may also deplete people's psychological resources, making it challenging to act compassionately (Hobfoll, 1989). Additionally, high job demands may leave employees with less time and energy to focus on others' needs, further hindering the development and expression of compassion (Di Fabio & Kenny, 2016).

However, Hypothesis 2 was not confirmed, as aggregated group/team level job social resources did not moderate the negative relationship between individual job demands and individual compassion. One possible explanation for this result could be that the presence of supportive resources at the group or team level might be insufficient to buffer the negative impact of job demands on individuals' compassionate attitudes and behaviours. It is possible that individual factors, such as personality traits or coping strategies, might be more influential in moderating the relationship between job demands and compassion (Mikulincer & Shaver, 2005; Zhang & Chen, 2016) than the group level factors.

The study's findings supported Hypothesis 3, positing a positive relationship between aggregated job social resources and engagement, once the positive (individual-level) relationship between compassion and engagement has been controlled for. This result is consistent with the JD-Model (Bakker & Demerouti, 2014)which suggests that developing personal resources, such as compassion, be an important factor in increasing engagement among HCPs. Moreover, compassionate

individuals may feel a greater connection to their colleagues, fostering a sense of purpose and meaning that promotes engagement.

Nonetheless, as aggregated group/team level job social resources did not moderate the positive relationship between individual compassion and individual engagement. In other words, a potential explanation for this result might be that the beneficial effects of compassion on engagement are already substantial, and the presence of job social resources at the group or team level does not further amplify these effects. Alternatively, it is possible that other contextual factors, such as organisational culture or leadership styles, might play a more significant role in moderating the relationship between compassion and engagement (Schaufeli, 2018).

Our results also supported the idea that aggregated job social resources are negatively related to burnout, once the negative (individual-level) relationship between compassion and burnout has been controlled for. This finding can be explained because compassionate individuals are more likely to experience positive social interactions and perceive themselves as competent in helping others, which may protect them from burnout (Ryan & Deci, 2017). Following this reasoning, the JD-R Theory (Bakker & Demerouti, 2014) it can be suggested that our findings are further supported by the fact that individuals with compassionate traits might have an increased likelihood of acquiring and retaining resources. Alternatively, compassionate individuals may also benefit from job-related social resources, such as feedback from colleagues and supervisors, as well as autonomy, which could potentially alleviate the detrimental impact of job demands on burnout (Dodson & Heng, 2022).

However, as aggregated group/team level job social resources did not moderate the negative relationship between individual compassion and individual burnout. One possible explanation for this finding is that the direct effect of compassion on burnout is strong enough that the additional buffering effect of job social resources at the group or team level is not significant. Alternatively, other factors, such as individual coping strategies or resilience, might be more prominent in moderating the relationship between compassion and burnout (Smith et al., 2008) or that compassion could be more intense at the individual levels, especially for those who are self-oriented (Goetz et al., 2010). Alternatively, while no studies were found that directly examined the relationship between organisational culture or leadership style and the interplay between compassion and burnout, it is

possible that these factors may play a role in moderating this relationship. For example, an organisational culture that values compassion and promotes supportive relationships among colleagues may buffer the negative impact of burnout on individuals (Dutton et al., 2014). Similarly, leadership styles that prioritise the well-being of employees and foster a positive work environment may contribute to the development of individual resilience and coping strategies, ultimately reducing the risk of burnout (Lown et al., 2019). However, further research is needed to explore these potential moderating factors and their impact on the relationship between compassion and burnout.

The results of the study suggest that compassion plays a crucial role in workers' engagement and burnout levels, while the presence of job social resources in the workplace at the group or team level is also significantly related to these outcomes. However, the expected interactions between workplace social resources, compassion and job demands were not found. These findings contribute to the existing literature on work and organisational psychology and positive psychology by shedding light on the role of workplace compassion and job social resources in relation to job demands, engagement and burnout.

Conclusions

Based on these findings it can be inferred that there are cross-level effects between job social resources and compassion (controlled by job demands), as well as between compassion, engagement and burnout. In other words, the results indicate that individual-levels of compassion depends more on the positive characteristics of job social resources than on job demands. On the other hand, engagement and burnout would not be the same in the absence of either compassion, despite the significant relationship between Job Social Resources and these outcomes at group level (as shown in figures 4-6). This highlights the importance of considering (1) the interplay between different factors at the individual and group levels in understanding the complex dynamics of employee well-being in the workplace and (2) the positive side of organisations from the perspective of positive psychology in order to explain employee's well-being.

Theoretical Implications

This study provides knowledge about the antecedents of compassion at the group/team-level. Traditionally, compassion has been studied at the individual level, focusing on the impact it may have

in other individual variables (e.g., engagement, burnout, performance), but it has not been studied considering the group/team levels factors that can promote compassion. For this reason, this research is innovative since it can enhance our understanding of how compassion operates at group/team-level in the healthcare context. For example, it can help us to identify how job social resources can help HCPs to cope with job demands at work, and to buffer the levels of engagement and decrease the levels of burnout.

In addition, we theorise compassion as a personal resource from the perspective of occupational health models such as the HERO Model (Salanova et al., 2012, 2019) and the JD-R Model (Bakker & Demerouti, 2014) where the importance of personal resources in promoting well-being is reaffirmed, suggesting the role of compassion in promoting healthy employees is emphasised; this study shows that compassion is a psychological mechanism that can help to reduce and prevent burnout levels and promote engagement. Moreover, this study highlights how job social resources through compassion can help to cope with the job demands at work.

Practical Implications

This research proves that compassion from a group/team perspective has positive effects at the group level on social resources in the workplace and at the individual level on engagement. It has also been shown to reduce the demands of work. Furthermore, this study suggests a way to develop and implement interventions to increase work resources at the work group/team level, which in turn promotes compassion in health care, as also encouraged by Seppala and colleagues (Seppala et al., 2014)

These findings also guide practitioners to develop and implement interventions to increase social resources at the group/team level, promoting compassion in health care. In practical terms, the findings of this study suggest that organisations could benefit from fostering a compassionate work environment as it is positively associated with employee engagement and negatively associated with burnout. Interventions that aim to promote compassion, such as compassion-focused therapy or mindfulness-based interventions, might be useful in improving employees' well-being and performance (Gilbert & Choden, 2013; Kabat-Zinn, 2013). Moreover, organisations should also invest

in creating supportive work environments by promoting job social resources, as they are significantly related to engagement and burnout.

Limitations and Research Directions

First, this cross-sectional study does not allow us to identify or confirm predictive conclusions about the causal order of the variables studied. However, the data was collected by multiple samples, this case different services from different hospitals that participated in the study. Longitudinal or experimental designs could be employed in future research to provide more robust evidence for the causal relationships among job demands, compassion, job social resources, engagement, and burnout.

Second, we collected all information via self-reports, which may cause common method variance bias. Harman Test was performed and revealed that there is no evidence for common variance in the data.

Third, the data collection was carried out before the COVID-19 pandemic, therefore it is difficult to uphold the validity of the results considering the drastic changes in volatile job demands such as workload and uncertainty. Nonetheless, these results allow to develop positive psychological interventions to promote compassion, engagement and reduce burnout in HCPs in post-pandemic environments. It also emphasises the importance of developing job social resources that promote well-being. These interventions are crucial today because of all the emotional distress that the pandemic has generated in these frontline COVID-19 HCPs.

Fourth, some variables were measured with a single item, based on the proof that single-item scales are appropriate for measuring variables like Engagement (Schaufeli et al., 2017) and Burnout (Houdmont et al., 2022). The reason is because we can save time for both individuals and companies to answer the questionnaire (Gil-Beltrán et al., 2020).

Finally, the low score on the Brief Compassion Scale, whose estimates were discussed internally in the research team and the decision was taken not to discard the lowest scoring item because the Cronbach's Alpha is moderate, which is above the allowed limit (Brown, 2002).

CHAPTER 4

Effectiveness of Compassion-Based Interventions at Work: A

Systematic Literature Review with Meta-Analysis Considering

Process Evaluation and Training Transfer

CHAPTER 4

Effectiveness of Compassion-Based Interventions at Work: A Systematic Literature Review with Meta-Analysis Considering Process Evaluation and Training Transfer[3]

Abstract

This study aimed to systematically review and conduct a meta-analysis of compassion-based interventions in the workplace. It examined the effects of these interventions on well-being. The analysis included nine studies meeting the inclusion criteria. The results showed non-significant decreases in stress levels (-0.24) and depression levels (-0.096) between pre- and post-compassion training, indicating no significant differences in intervention effects. The study also assessed the evaluation process and elements promoting training transfer in these interventions. It found that only 6 studies met the key components of the process evaluation, and none measured training transfer. According to these results, we proposed the "Framework for Evaluating the Effectiveness of Compassion-based Interventions in the Workplace," offering guidelines for designing and evaluating compassion-based interventions. The study highlights the importance of improving study methodology, conducting larger-scale trials, and focusing on key components in compassion-based interventions. It also suggests exploring training transfer and its impact on well-being for future research.

Keywords: compassion, compassion-based interventions in the workplace, process evaluation, training transfer, well-being

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[3] Chapter 4 has been summited as: San Román-Niaves, M., Vasquez, C. A., Coo, C., Nielsen, K., Llorens, S., & Salanova, M. (under review). Effectiveness of Compassion-Based Interventions at Work: A Systematic Literature Review with Meta-Analysis Considering Process Evaluation and Training Transfer.

Introduction

In recent years, mental health has become increasingly important, especially in the Volatility, Uncertainty, Complexity, and Ambiguity (VUCA) environment, which negatively affects employees' well-being (Fonte & Pimentão, 2022). The COVID-19 pandemic has exacerbated VUCA levels, leading organisations to mitigate its impact on employees and organisational outcomes (Bravo, 2022; Worley & Jules, 2020).

Research has shown that during the pandemic, employees' mental health and well-being has deteriorated (Holmes et al., 2020), they felt isolated, with a lack of social support climate, and with high levels of mental, emotional, and quantitative overload (Lades et al., 2020).

Compassion may be a useful strategy to alleviate these negative effects, and improve the levels of social support climate, personal resources (as resilience) and communication (San Román-Niaves et al., 2022; Vidman & Strömberg (2020). Regardless of the potential benefits of compassion, there is still limited knowledge regarding the effectiveness of compassion training in the workplace, and the conditions and mechanisms required for such training to be effective. The study presents a systematic review and a meta-analysis with the aim to examine the effectiveness of compassion-based interventions in the workplace. One important innovation in this review is that we explore the process evaluation and training transfer mechanisms that contribute to the success of these interventions.

Compassion, characterised by its sensitivity to suffering and a strong commitment to alleviating and preventing it (Gilbert & Choden, 2013), holds significant importance. It entails recognising the interconnectedness and interdependence of all beings and responding with kindness and empathy (Pommier et al., 2020). Research has linked compassion to positive effects on mental and physical health, as well as social relationships (Gilbert, 2020; Neff & Germer, 2013).

Furthermore, organisations can be sites of suffering (i.e., stress, high workload, poor relationship with colleagues), but can also be a source of care and compassion (Frost et al., 2000). Recognising the significance of compassion in organisational research is crucial, as it often goes unnoticed and undervalued in workplace settings. Research has demonstrated that high levels of compassion may bring benefits to organisations, such as renewing of resources, including trust and

quality of personal relationships, strengthening shared values, such as respect and a focus on the common good, and increasing workplace productivity (Dutton et al., 2014; Worline et al., 2017). Compassion also leads to the development of relational skills and contributes to increased well-being, including more engagement and less burnout. Moreover, compassion can improve organisational performance (SungHoon, 2018). For all these reasons, it is important to promote compassion interventions at the workplace.

Research on compassion-based interventions in the workplace has shown some potential with studies demonstrating their effectiveness in reducing stress and burnout, increasing job satisfaction and engagement, and improving interpersonal relationships (Orellana-Rios et al., 2017; Scarlet et al., 2017; Sinclair et al., 2021). However, to fully leverage the potential of these interventions, it is important to explore their effectiveness specifically in the workplace. There are different elements that may influence the effectiveness of intervention, such as elements related to intervention design (e.g., number of sessions, content, facilitators) and training transfer (Nielsen et al., 2022).

Despite the significance placed on evaluating the effectiveness of compassion-based interventions in the workplace, a substantial body of research underscores the difficulties connected with training transfer. Training transfer refers to the extent to which learning that was acquired during a training programme (i.e., compassion intervention) is effectively and successfully transferred to the workplace and maintained over time (Baldwin & Ford, 1988). Without effective training transfer, the benefits of training are unlikely to be achieved if employees fail to transfer what they have learned to their work environment (Blume et al., 2010). Therefore, it is essential to measure training transfer to evaluate its impact on the effectiveness of compassion interventions. By doing so, it will be possible to identify the factors that facilitate or hinder the transfer process and enhance the overall effectiveness of these interventions in the workplace. The present research will specifically focus on examining training transfer, considering its potentially crucial role in determining the effectiveness of the interventions.

Regardless of the growing body of research on compassion-based interventions, there remains a gap in literature regarding interventions related to mental health at work. Nielsen and Shepherd (2022) criticise that workplace mental health interventions targeting individuals have failed to explore

what participants have learned and transferred during the training. This may suggest that such interventions may not as effective as they have the potential to be, and further research is needed to better understand how to design and evaluate interventions to optimise their effectiveness and ensure the successful transfer to the daily work (Baldwin & Ford, 1988).

For this reason, this systematic literature review and meta-analysis aims to shed light on effectiveness of compassion-based interventions in the workplace directed to improve employee well-being, and on the specific process evaluation mechanisms (Linnan & Steckler, 2002) such as context, reach, fidelity, implementation, that lead to successful training transfer and can help to identify potential barriers. In this research, we conducted a thorough review of quantitative studies on compassion-based interventions in the workplace to assess their overall effectiveness. By undertaking this study, we aim to contribute to a better understanding of the underlying mechanisms that influence the efficacy of compassion-based interventions at work. Through examining these mechanisms, we can gain valuable insights into what factors play a significant role in the effectiveness of such interventions.

Definition of Compassion-Based Interventions

Compassion-based interventions refers to a range of practices aimed at cultivating and enhancing compassion within individuals (Kirby et al., 2017). These interventions target the psychological construct of compassion directly and indirectly (Ash et al., 2021), and emphasise the development of empathic understanding, kindness, and supportive behaviours towards oneself and others (Kirby et al., 2017).

Based on Kirby´s et al. (2017) there are different types of compassion-based interventions that specifically target the development of compassion. These interventions include Compassion Focused Therapy (CFT; Gilbert, 2014), Mindful Self-Compassion (MSC; Neff & Germer, 2013), Compassion Cultivating Training (CCT; Jazaieri et al., 2013), Cognitively Based Compassion Training (CBCT; Pace et al., 2009), Cultivating Emotional Balance (CEB; Kemeny et al., 2012), Attachment-based Compassion Therapy (ABCT; García-Campayo et al., 2016), Compassionate Mind Training (CMT; Gilbert, 2014, 2020), Cognitively Based Compassion Training (CBCT; Negi, 2013), Compassion-Centred Spiritual Health (CCSH; Negi, 2013), and Loving-Kindness Meditation (LKM) and

Compassion Meditations (e.g., Wallmark et al., 2013). They can be delivered through various modalities, including face-to-face, online settings, and be implemented at the individual and group level (Kelleher et al., 2022).

Compassion-based interventions have been demonstrated to have a wide range of positive effects, including the facilitation of prosocial behaviours in both clinical and non-clinical populations (Kirby & Gilbert, 2017). These interventions have also been associated with improvement in social relationships (Weng et al., 2013), the cultivation of compassion towards oneself and other (Gilbert, 2010; Leaviss & Uttley, 2015; Neff & Germer, 2013), and significant benefits for mental health and well-being, including improving mental health outcomes, personal and social well-being, enhance resilience, reducing stress (Allen & Leary, 2010; Weng et al., 2018). Even though the positive effects of these interventions, they have not been tested in work contexts. There are a few studies, for example, Kelleher et al. (2022) have demonstrated that a compassion-based intervention can reduce burnout in healthcare professionals. Additionally, Nebot-Gresa et al. (2021) validated the brief intervention in ABCT in employees and students, and the results showed that participants reported improved compassion, transcendence beliefs and endo-group solidarity. As has been demonstrated, these trainings could equip better to work in VUCA environments. Studying the effectiveness of workplace-based mental health interventions involves considering various factors, and one crucial aspect is understanding the evaluation process (Nielsen & Shepherd, 2022). It is essential to examine how the evaluation has been conducted, ensuring that the knowledge gained from the evaluation has been effectively transferred and applied in employees' daily work.

To date, there has been no comprehensive synthesis of the data regarding the effectiveness of compassion-based interventions for improving well-being and mental health in the workplace. For this reason, there is a need to conduct a systematic literature review using meta-analytic strategies to provide a rigorous and quantitative approach combining data from multiple independent studies, enhancing statistical power, and identifying consistent patterns across different compassion-based interventions. These suggest one important question:

Research question 1: Are compassion interventions at work effective in increasing employees' mental health and well-being?

Process Evaluation and Training Transfer

Intervention design plays a crucial role in enhancing employee well-being and organisational outcomes. Two key elements contribute to the effectiveness of interventions: what happens during the training and what happens after (Nielsen & Shepherd, 2022). During training, attention must be given to the design of the training programme itself, ensuring it is tailored to the specific needs and objectives of participants and the organisation (Baldwin & Ford, 1988). For this reason, process evaluation is a crucial component of program evaluation that focuses on assessing the implementation and delivery of interventions. Provides valuable insights into the mechanisms, the activities, and contextual factors that influence programme outcomes.

The model proposed by Linnan and Steckler (2002) suggests that process evaluation involves seven key components: context, reach, dose delivered, dose received, fidelity, implementation, and recruitment. Context refers to the broader social, cultural, and organisational factors that shape the programme's implementation. Reach examines the extent to which the target population is reached and represents the diversity and representativeness of participants. Dose delivered refers to the amount and intensity of the intervention that is delivered to the participants. Dose received focuses on understanding the extent to which participants engage with and actively participate in the intervention. Fidelity is the extent to which the programme is implemented as intended, involves assessing the degree to which the programme adheres to its original design. Implementation encompasses the overall quality and delivery of the programme. And finally, the recruitment assesses the strategies used to engage and enrol participants in the programme.

Process evaluation is essential for compassion-based interventions as it may provide insights into how these interventions are implemented, the participation, and the contextual factors that influence their effectiveness. It can help to refine and optimise interventions, ensuring their relevance, feasibility, and long-term impact. There are no studies that aim to measure process evaluation in compassion-based interventions, so these can indicate another important question:

Research question 2: Do compassion interventions endeavour to identify the process evaluation mechanisms?

Baldwin and Ford (1988) proposed a widely recognised model that outlines key factors influencing training transfer. Training transfer refers to the extent to which employees apply the knowledge, skills, and attitudes (KSAs) learned in training to their job performance and maintain these changes over time, thus playing a crucial role in the success of the interventions. According to their model, transfer is influenced by trainee characteristics, training design, work environment, and transfer climate. Trainee characteristics include individual factors such as motivation, self-efficacy, and cognitive ability, which influence the likelihood of transfer. The training design component emphasises the importance of instructional methods, feedback, and practice opportunities to enhance transfer. The work environment encompasses organisational support, supervisor encouragement, and resources available to support the transfer process. Lastly, the transfer climate refers to the norms and expectations within the organisation regarding the application of learned skills. By considering these factors, organisations can promote and enhance training transfer, ensuring that newly acquired knowledge and skills are effectively applied in real-world settings.

Despite the relevance of the process evaluation and the elements that promote training transfer to achieve the success of the interventions (Gemmano et al., 2022; Nielsen et al., 2023; Tafvelin et al., 2021) in which these studies demonstrate the effectiveness of the interventions when implementing mechanisms of training transfer, there are no reviews that aim to study relevance of training transfer on compassion-based interventions at work. Furthermore, understanding the challenges associated with training transfer can be particularly relevant in the context of compassion-based interventions because the successful application of compassionate techniques and skills learned during the intervention within real-life situations is essential for promoting lasting positive effects on individuals' well-being and fostering a compassionate work environment.

Research question 3: Do workplace compassion interventions identify training transfer mechanisms?

To address the three research questions to comprehensively understand the effectiveness and impact of compassion-based interventions, the aim of this study is to conduct a systematic review and meta-analysis to evaluate the empirical literature regarding compassion-based interventions in the workplace, examining the mechanisms of the evaluation process and those elements that promote training transfer and its effects on well-being.

Method

Following the principles of PRISMA-P (Shamseer et al., 2015), a systematic literature review and meta-analysis were conducted to provide an objective and robust analysis of the existing literature on compassion-based interventions at work, contributing to the overall understanding of their effectiveness in promoting employee well-being.

Search strategy

Between December 2022 to February 2023, a comprehensive and systematic literature search was conducted in relevant databases, following the Cochrane Collaboration's guidelines for systematic reviews. The Cochrane Collaboration provides guidance on how to conduct a systematic review, emphasising the importance of a thorough, objective, and reproducible search of a range of sources to identify eligible studies. Reporting the search methods is also important to ensure the reproducibility of the systematic review. Published studies were identified through searching in Web of Science, Scopus, PsycInfo and Pubmed). The search terms have been focused on titles, abstracts, and keywords, using the Boolean operators' combination ("OR", "AND"). The key terms used for this search were "compassion" / AND "intervention" OR "training" OR "program*" / AND "work" OR "workplace". Last search was run in February 2023.

Eligibility Criteria

Each study was required to meet the following criteria to be included in the meta-analyses: (1) be published in English, Spanish, Italian or Portuguese language; (2) be peer-reviewed, published in a scientific journal, book chapters, also doctoral thesis were considered. Quantitative studies were included. Theoretical and review articles were excluded; (3) conceptualisation of compassion-based interventions. Interventions based on self-compassion, compassion fatigue and compassion satisfaction were not included. This distinction was made due to the recognition that self-compassion can differ from compassion towards others (López et al., 2018), and compassion fatigue and compassion satisfaction are considered as outcomes. (4) detailed an intervention implemented with employees of an organisation. Any studies conducted outside the work or involved general population or students were not included, because we are interested in working population; (5) include measures

related to the outcomes of compassion (e.g., engagement, burnout, stress, anxiety) with evidence of reliability and validity. Studies without outcomes related to these constructs were excluded.

Data Extraction

The initial search in the databases was of 3,982 articles. A spreadsheet has been used to collect the titles, abstracts and references of the articles screened in the first step. After removing 1376 duplicates, 2606 articles remained for further screening. First, studies were screened by the first and second author based on title/abstract, resulting in 57 articles that met the inclusion criteria. Second, the first and second author examined the full-text articles to determine if the studies met the inclusion criteria, and a further study was identified through manual searches, leaving a final total of 9. This is because, although many studies claim to focus on compassion, they actually utilise the constructs of self-compassion or mindfulness. The first and second author resolved any uncertainties about eligibility for inclusion throughout discussion. Most of the excluded studies were not intervention studies or were more mindfulness, self-compassion or compassion fatigue intervention studies (Figure 1).
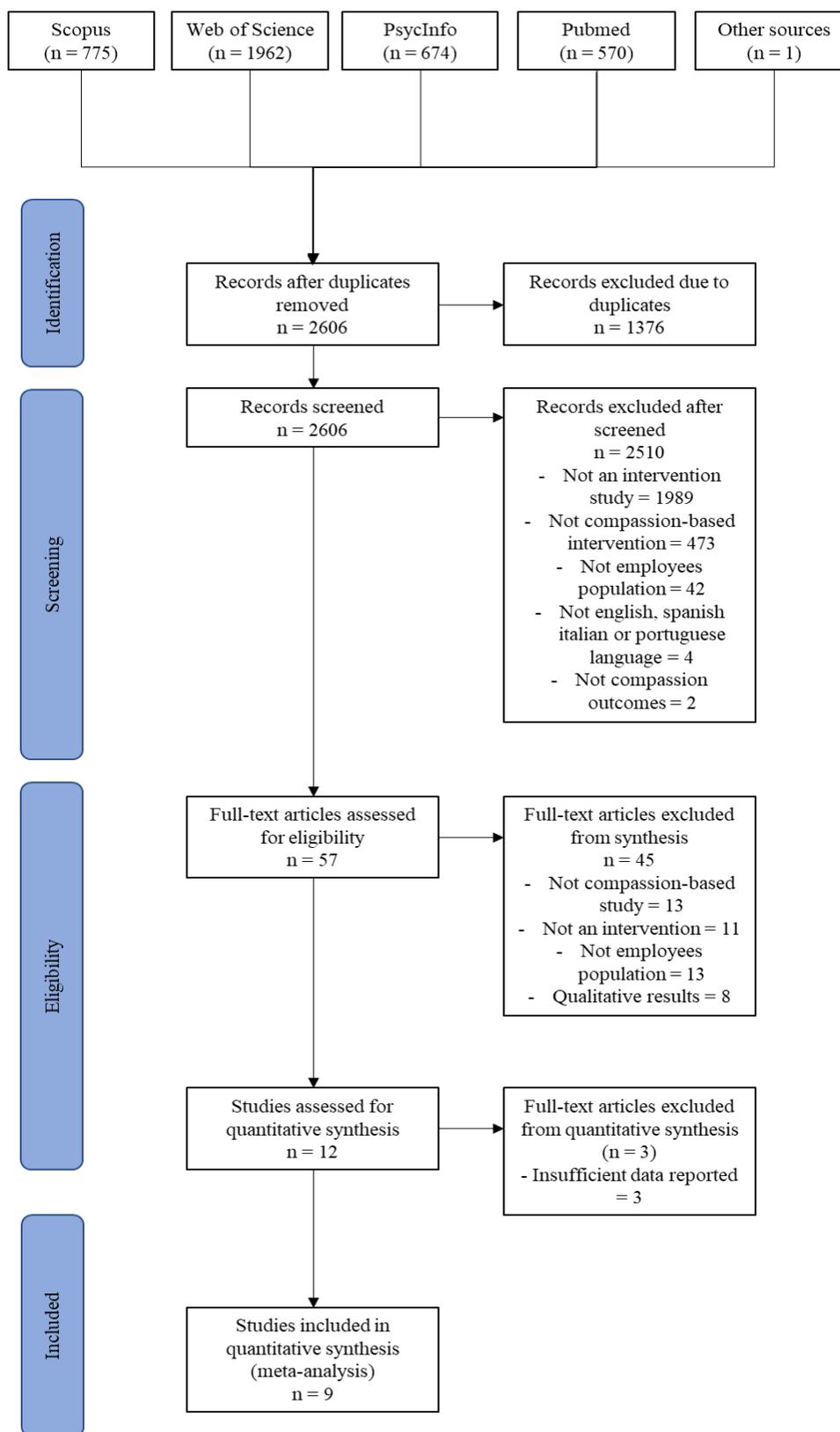
Figure 1

Flow diagram of selected studies

Coding of the studies

Characteristics of the studies were double coded by the two reviewers, according to a specially developed coding guide (see Table 1). Any inconsistencies were resolved by discussion. Demographic information obtained were participant numbers, occupation, age and gender, job tenure time. Studies characteristics included the author details, year, type of document (peer-reviewed articles, book chapter, thesis), number of studies reported the country in which the intervention was implemented, whether the organisation was public or private, single, or multiple sample (single if the intervention was conducted in one organisation or multiple if the intervention was conducted in two or more organisations). Further information included the design of the studies (experimental), whether the intervention groups were experimental, control or waiting list, outcomes related to compassion (e.g., anxiety, depression, satisfaction), measures of the outcomes (scales and subscales).

The level of agreement between the two coders was evaluated using Cohen's Kappa (Cohen, 1960). This measurement indicates the amount of agreement between the two coders above what would be expected by chance. The values of Cohen's Kappa range from -1.00 to +1.00, with 0 indicating chance agreement, +1.00 indicating perfect agreement, and -1.00 indicating perfect disagreement. When the values are between 0.40 and 0.59, it suggests fair agreement, between 0.60 and 0.74, it suggests good agreement, and above 0.75, it suggests excellent agreement. Except for one agreement rate, which was 0.44, all agreement rates were above 0.60. Many of them were above 0.75, approaching 100% agreement. Whenever necessary, all disagreements were resolved by discussing and consulting between the two reviewers. Following this process, the consensus rates reached 100% for every piece of data extracted.

Meta-analytic procedure

The meta-analysis was implemented using R package Metafor (v2.4-0; (Viechtbauer, 2010). The focus of the analysis was on changes in participants' well-being pre-post interventions. We calculated effect sizes on measures of distress (i.e., burnout, stress, anxiety; Andersson et al., 2022; Johansson et al., 2022; Mascaro et al., 2023; Watts et al., 2021) and depression (The hospital anxiety and depression scale, Zigmond & Snaith, 1983; Depression Anxiety and Stress Scales, Lovibond & Lovibond, 1995). As only two articles of the final pool from our review included between group

comparisons using a control-group research design, it was not possible to use these values to conduct the meta-analysis. Therefore, we carry out the meta-analysis with studies including only within group comparisons (pre-post training). We calculated Cohen d's effect size and its 95% confidence interval (Cohen, 1968). According to Cohen (1988), d values may be interpreted as small (0.2), moderate (0.5), and large (0.8).

Regarding pre–post training group comparisons, computation of the standardised mean difference (SMD) involves including the correlation between the time 1 (Pre) and the time 2 (Post) values (Lipsey & Wilson, 2001). As these values are generally not reported in the studies, researchers (e.g., Cuijpers et al., 2017) have suggested that pre-post SMDs should be avoided in meta-analyses because they may result in biased outcomes. As a way to partially overcome this issue, academics have suggested that the best value to use in such situations would be the correlation based on existing reports of correlations (Cuijpers et al., 2017), such as test–retest correlations of instruments: "since the variables at issue differ only with regard to time of measurement, the correlation between them should approximate the test-retest reliability" (Lipsey & Wilson, 2001). Besides, this correlation affects the confidence interval around the mean effect size and the assessment of the degree of effect size heterogeneity, not the value of the effect size statistic (Lipsey & Wilson, 2001). Therefore, we used the following correlations: r = .73 for the Perceived Stress Scale (Cohen et al., 1983); r = .67 for the Copenhagen Psychosocial Questionnaire (COPSOQ) scale (Thorsen & Bjorner, 2010), and r = .77 for the Depression, Anxiety, and Stress Scale (DASS) scale (Gomez et al., 2014).

Next, standardised mean difference (SMD) were aggregated following the procedures of Hedges and Olkin (2014), weighting studies with larger samples. As an indicator of homogeneity, we used the Q statistic to test the assumption that all studies included shared a common population effect size (Hedges & Olkin, 2014; Higgins et al., 2003) complemented by the I2 index to quantify the degree of heterogeneity ranging from 0 to 100% (Higgins et al., 2003). An I2 value of 25 indicates low heterogeneity and means that 25% of the observed variance between studies is due to real differences in SMDs between studies, whereas I2 values of 50 and 75 indicate respectively moderate and high heterogeneity (Higgins et al., 2003). Random effect models (REM) were used under the

assumption that variability between studies is not only due to subject-level random sampling error, but also to true variations of effect sizes between studies (Borenstein et al., 2009; Hedges & Vevea, 1998).

Results

Characteristics of the studies

The first research question aimed to investigate the effectiveness of interventions. Of the nine research articles that met the inclusion criteria, six were conducted in Europe (2 from Sweden, 2 from Portugal, 1 from Germany and 1 from Finland), two in the United States and one in Australia. All the studies were conducted within a 7-year period (2017-2023). The articles included participants from different sectors and occupational backgrounds, five studies were conducted in healthcare context or in healthcare professionals, the rest of studies were conducted in schools, and public and private companies. The sample sizes varied across the studies, ranging from 18 (Johansson et al., 2022) to 95 participants (Vuorinen et al., 2021), with a mean sample size of 49.33 (SD = 25.04). 8 of the 9 studies reported participants' gender, being predominantly female (ranging from 74.2% to 98.9%; Matos et al., 2022; Vuorinen et al., 2021). All articles were published after 2017.

Most of the interventions focused on aspects related to positive or negative mental health in the workplace, as well as indicators of well-being or distress at work. Only one study measured variables related to the work situation and goal attainment (Orellana-Rios et al., 2017).

Related to the expected outcomes of the interventions in relation to well-being, most of the studies included measures of distress (i.e., burnout, stress, anxiety; Andersson et al., 2022; Johansson et al., 2022; Mascaro et al., 2023; Watts et al., 2021), fewer studies included measures of depression (i.e., Andersson et al., 2022; Mascaro et al., 2023; Matos et al., 2022; Orellana-Rios et al., 2017; Watts et al., 2021), and just a couple of studies included positive well-being measures (i.e. satisfaction with life, job satisfaction; Andersson et al., 2022; Scarlet et al., 2017). Only two studies specifically included compassion as an outcome measure (Matos et al., 2022; Vuorinen et al., 2021). Therefore, meta-analytic results will only be reported for outcome variables distress and depression. All the results are shown in Table 1.

Table 1

Study Characteristics of Studies Included in Quantitative Synthesis

Authors and year	Sample	Country	Study Aim	Compassion-based intervention	Duration (weeks)	Control Group	Process Evaluation	Example Process Evaluation	Feasibility and acceptability	Training Transfer	Outcomes
Andersson et al. 2022	49 employees (95% women, aged 22-55 years) of two companies	Sweden	Investigate the effects of a 6-week psychological intervention utilising compassion training on stress, mental health, and self-compassion.	CFT; MSC	6 weeks	Active Control Group	Context; Reach; Dose Delivered; Dose Received; Implementation (75%); Recruitment	Dose Delivered: All the intervention: in-person 6-week group format, with weekly 2-h group sessions.	No	No	Perceived Stress; anxiety; Depression; Satisfaction with Life
Johansson, et al. 2022	18 HCPs (Nurses, psychologists, psychotherapists, counsellors, occupational therapists, and doctors)	Sweden	Evaluate the feasibility of two internet-based stress management courses and their preliminary effectiveness to reduce HCPs' stress of conscience and work-related stress	CMT	5 weeks	No	Dose Delivered; Dose Received: Implementation (50%); Recruitment	Dose Received: All intervention: 5-module ICOP (text messages, video clips, and sound recordings, with reflective questions and exercises)	No	No	Burnout; Stress; Burnout Symptoms; Sleep Problems
Mascaro et al. 2021	45 CRCs (84.4% female)	United States	Develop a compassion-centred, team-based intervention,	CCSH; CBCT	8 weeks	Wait-List Group	Context: Dose Delivered; Dose Received; Fidelity; Implementation	Fidelity: Based on CCSH.	Questionnaires to capture participants credibility, and satisfaction	Questionnaire: Perceived programme benefits related to well-being.	Burnout; Stress; Anxiety; Depression

Author/Year	Sample	Country	Aim	Intervention	Duration	RCT	Implementation	Context/Recruitment			Outcomes
			CCSH-TI to reduce burnout and promote resilience among CRCs.				(75%); Recruitment				
Matos et al. 2022	31 public school teachers (74.2% female, mean age of 51.33, SD = 5.27, age ranging 40 and 62 years old)	Portugal	Test the feasibility of the CMT-T, as well as to preliminary explore possible mechanisms of change.	CMT	6 weeks	No	Context; Reach; Dose Delivered; Dose Received; Fidelity; Implementation (100%); Recruitment	Context: 1 Public School	Acceptability, implementation, practicality, adaptation, integration, and preliminary effectiveness,	Overall programme assessment, attrition, attendance, and home practice.	Burnout; Depression; Stress; Well-being; Satisfaction with Professional Life; Self-compassion; Compassion to Other's Motivation and Action; Compassion for the Self; Compassion from Others; Compassion for Others; Self-criticism; Fears of Compassion.
Orellana-Ríos et al. 2017	28 staff members of a multidisciplinary palliative care team (mean age 46.4 SD = 5.8; 75% female)	Germany	Test a mindfulness and compassion-oriented meditation training for interdisciplinary teams aimed to reduce distress, foster	LKM	10 weeks	No	Context; Reach; Dose Delivered; Dose Received; Implementation (75%); Recruitment.	Recruitment: Participants were recruited by internal advertisements. Staff members in all work areas were invited to participate.	Satisfaction with the programme.	Semi-structured interviews: integration into daily work life, motivation to participate, work-related resources and distressing aspects interplay	Burnout; Stress; Anxiety; Depression; Emotion Regulation; Work situation; Goal Attainment.

			resilience, and strengthen a prosocial motivation in the clinical encounter.							between compassion and personal wellbeing.	
Santos et al. 2022	85 caregivers from 11 Portuguese RCH (mean age 44.47, SD = 10.7; 89.4% female)	Portugal	Examine the impact of the CMT-Care Homes Programme on RYC staff to enhance an affiliative/caregiving mentality in self-to-self and interpersonal interactions, fostering a safe and secure residential care environment.	MSC; CMT	12 weeks	Yes	Context; Reach; Dose Delivered; Dose Received; Fidelity; Implementation (100%).	Fidelity: The CMT-Care homes program was delivered in accordance with the handbook, in face-to-face format, weekly (2.5-hr session) in each RCH.	No	Compassionate formal/informal practice to be trained between sessions.	Compassion; Self-compassion; Fears of Compassion; Emotional Climate in Organisations; Social Safeness and Pleasure.
Scarlet et al. 2017	62 HCPs (80% female, age ranging 22-80 years)	United States	Investigate the effects of the CCT on various aspects of burnout and job satisfaction in HCPs.	CCT	8 weeks	No	Reach; Dose Delivered; Dose Received; Fidelity; Implementation (100%); Recruitment.	Implementation: 100% that includes Reach, Dose Delivered, Dose Received and Fidelity	No	Participants were encouraged to undertake daily formal and informal meditation practices outside of class time.	Self-compassion; Mindfulness; Burnout; Job Satisfaction; Interpersonal Conflict; Fears of Compassion.
Vuorinen et al. 2021	95 early childhood	Finland	Promote compassion,	N/A	8 weeks	Yes	Reach; Dose Delivered;	Recruitment: The	No	After the implementatio	Compassion; Character

	education teachers (98.9% females)		character strengths and a supportive organisation culture in ECEC.				Dose Received; Implementation (75%); Recruitment	educational authorities recruited the head teachers via an e-mail list and organised the schedule and the venue.		n, feedback was provided by the coaching specialist and the colleagues.	Strengths; Strengths Use; Supportive Organisation Climate; Work and Meaning.
Watts et al. 2021	31 HCPs (96.7% female, mean age 42.3 years)	Australia	Evaluate the feasibility and acceptability of a novel 6-week mindfulness-based compassion training intervention.	CCT; MSC	6 weeks	No	Reach; Dose Delivered; Dose Received; Fidelity; Implementation (100%); Recruitment.	Dose Delivered: All intervention: 6-week (7hr in total)	Attendance and practice. Satisfaction.	No	Stress; Anxiety; Depression; Compassion Satisfaction: Secondary Traumatic Stress; Emotional Exhaustion; Personal Accomplishment; Depersonalisation; Self-compassion; Mindfulness

Note. Compassion Focused Therapy (CFT); Mindful Self-Compassion (MSC); Compassionate Mind Training (CMT); Cognitively Based Compassion Training (CBCT); Loving Kindness Meditation (LKM); Healthcare Professionals (HCPs); Internet-based Compassion Course (ICOP); Compassion-Centred Spiritual Health Team Intervention (CCSH-TI); Clinical Research Coordinators (CRCs); Compassion-Centred Spiritual Health (CCSH); Compassionate Mind Training programme for Teachers (CMT-T); Compassionate Mind Training program for caregivers (CMT-Care Homes); Residential Youth Care (RYC); Compassion Cultivation Training (CCT); Early Childhood Education (ECEC); Residential Care Homes (RCH).

Pre–post compassion training

Figure 2 depicts the forest plot of the six studies with pre–post training data that includes distress measures (e.g., Perceived Stress Scale, Cohen et al., 1983); and depression measures (Depression Anxiety and Stress Scales, Lovibond & Lovibond, 1995). As can be seen in Table 2, Q test shows that the data were heterogeneous and the I2 index indicates that heterogeneity is high (82.8%). Random effect model (REM) results show a standardised mean difference (SMD) of -0.24, 95% CI [-0.62, 0.14] suggesting a non-significant decrease in stress levels between pre- and post- compassion training.
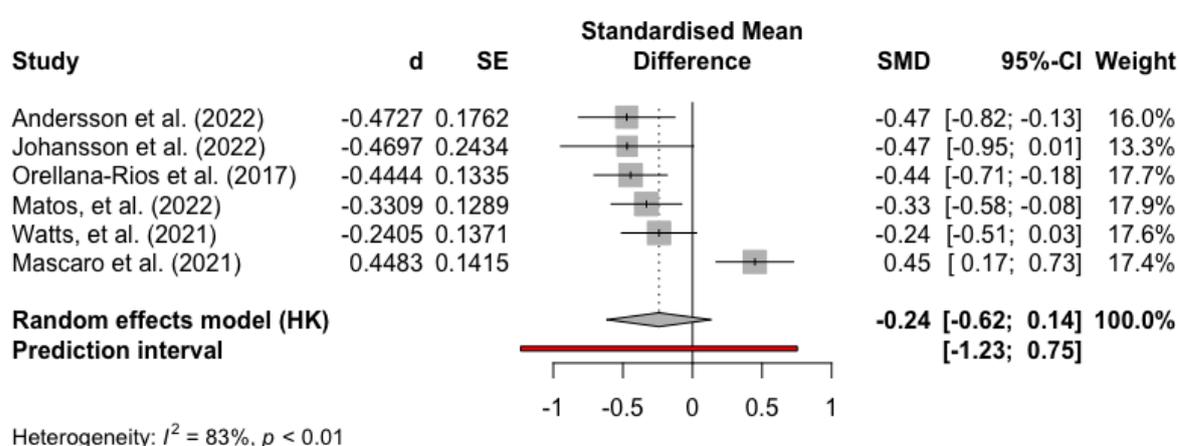
Figure 2. *Forest plot of the pre–post stress in compassion training. Random effect model.*

Similarly, Figure 3 shows the forest plot of the five studies with pre–post training data that includes depression measures (e.g., The hospital anxiety and depression scale, (Lovibond & Lovibond, 1995; Zigmond & Snaith, 1983); Depression Anxiety and Stress Scales, Lovibond & Lovibond, 1995). As can be seen in Table 2, Q test shows that the data were heterogeneous and the I2 index indicates that heterogeneity is moderate (67.2%). Random effect model (REM) results show a standardised mean difference (SMD) of -.096, 95% CI [-0.50, 0.31] suggesting a non-significant decrease in depression levels between pre- and post- compassion training.
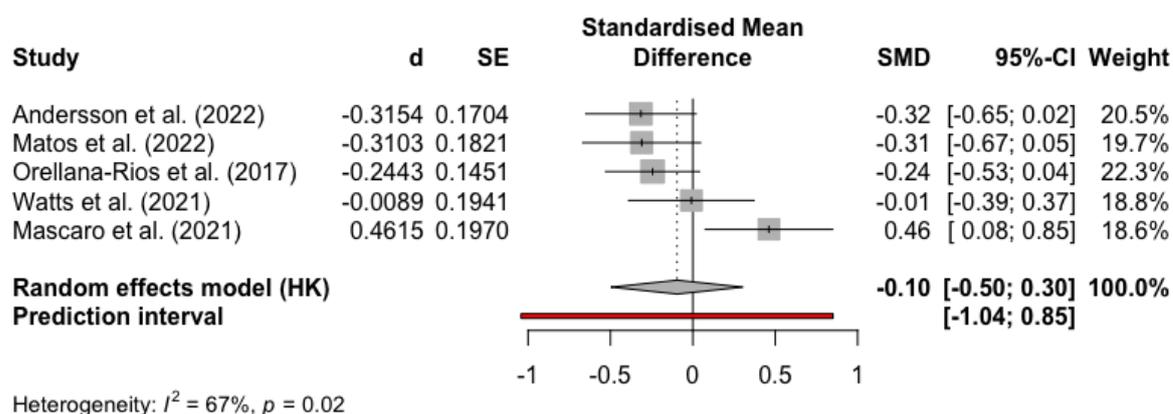
Figure 3. *Forest plot of the pre–post-depression in compassion training. Random effect model.*

Table 2

Pre–post analyses after compassion training

Outcome	k	N	SMD	95% CI	Q	I^2
			Random effect Model		Homogeneity	
Distress	6	147	-0.241	[-0.6169; 0.1358]	29.01**	82.8
Depression	5	134	-0.096	[-0.4964; 0.3045]	12.18*	67.2

Note. K, number of studies; N, total pooled sample size; SMD, Standardised Mean Difference (Cohen's *d*); 95% CI, 95%-confidence interval; Q, Test of heterogeneity; I^2, amount of variance due to heterogeneity. *$p < .05$. ***$p < .001$.

Process Evaluation

The second research question was related to the process evaluation measures. As can be seen in Table 1, one of the included studies (11.11%) considered the seven key process evaluation suggested by Linnan and Steckler (2002), five studies (55.55%) considered six, two (22.22%) studies considered 5, and one (11.11%) study considered 4. The average number of process evaluation components found in the studies was 6, ranging from 1 to 7. The nine studies (100%) considered dose delivered, dose received, and implementation. Seven studies (77.77%) include recruitment, also seven (77.77%) included reach), five studies (55.55%) looked at fidelity, and five (55.55%) considered context.

Context

All the interventions were conducted in organisational settings, such as hospitals (Johansson et al., 2022; Mascaro et al., 2023; Orellana-Rios et al., 2017; Scarlet et al., 2017; Watts et al., 2021), in public and private organisations (Andersson et al., 2022), in school

settings (Matos et al., 2022; Vuorinen et al., 2021) and in Residential Care Homes (RCH; Santos et al., 2022). However, four of the studies do not specify the context, for example, the study conducted by Johansson et al. (2022) mentions that the intervention was implemented in different organisations in Sweden but provides no further details of types of organisations.

Reach

The 9 studies mention the number or percentage of individuals who participated in the interventions and, the studies that include control, waiting list and experimental groups also mention the total number of participants in each group. As part of the reach, three of the studies contemplated inclusion criteria (i.e., subjective experience of perceived stress, were involved in the delivery of services to adolescents, being registered in a previous course; (Santos et al., 2022; Scarlet et al., 2017; Watts et al., 2021), and only two studies mention that all the organisation was invited to participate (Andersson et al., 2022; Orellana-Rios et al., 2017).

Dose Delivered and Dose Received

Concerning the dose delivered and dose received, all studies mention that the interventions were implemented, but there is no concrete data to corroborate this (e.g., implementation protocol, potential changes in sessions, time adjustments, etc.).

Fidelity

For fidelity, only four articles mentioned the protocols they relied on to conduct the studies, for example CCSH, CMT, CCT and MSC (Mascaro et al., 2023; Santos et al., 2022; Scarlet et al., 2017; Watts et al., 2021).

Implementation

The studies included a diverse range of compassion-based interventions, varying in formats and durations. Some interventions involved in-person 6-week group sessions, covering stress management, emotional regulation, and compassion (Andersson et al., 2022). Others utilised internet-based stress management courses with five modules, including text messages, videos, and reflective exercises (Johansson et al., 2022). There were also four-sessions programmes every other week focusing on relationships and accessing compassion (Mascaro et al., 2023) . Additional interventions included 10-week group programmes for cultivating

mindful presence (Orellana-Rios et al., 2017), 12-session programmes exploring compassion attributes (Santos et al., 2022) and an 8-week compassion training (Scarlet et al., 2017). Furthermore, a comprehensive 63-hour intervention covered positive psychology and compassionate leadership (Vuorinen et al., 2021), while a 6-week compassion mind training programme was also implemented (Matos et al., 2022).

To accurately measure the implementation, four key components (i.e., reach, dose delivered, dose received, and fidelity) are crucial for successful program implementation. Among the included studies, four of them achieved a 100% implementation rate by fulfilling all four criteria (Matos et al., 2022; Santos et al., 2022; Scarlet et al., 2017; Watts et al., 2021). However, the remaining studies only achieved 50% and 75% implementation rate.

Recruitment

Seven of the studies provided details about the recruitment methods utilised. Various approaches were used to gather participants from the diverse settings, such as HR departments conducted the recruitment (Andersson et al., 2022), employers from municipalities or by advertising on social media (Johansson et al., 2022), educational authorities (Vuorinen et al., 2021), by internal advertisements (Orellana-Rios et al., 2017), participants were recruited from a group of individuals who had registered to a previous compassion course (Scarlet et al., 2017), in a cluster of schools (Matos et al., 2022) and through internal staff and professional networks (Watts et al., 2021).

Feasibility and acceptability

Feasibility and acceptability were rigorously assessed across multiple domains, including acceptability, implementation, practicality, adaptation, integration, and preliminary effectiveness, using on self-reports, programme assessment, attrition rates, attendance records, home practice data (Matos et al., 2022; Watts et al., 2021). Various assessment methos, such as questionnaires, were employed to evaluate participant's perceptions of the programme's credibility and satisfaction (Mascaro et al., 2023). Finally, Orellana-Rios et al. (2017) measured participant's satisfaction with the programme.

In summary, this study included various studies that evaluated the process evaluation of these interventions. that most of the studies considered critical process evaluation components, including dose delivered, dose received, reach, and implementation. However, some studies lacked concrete data to corroborate the implementation, and fidelity reporting was limited. Overall, the current evidence highlights the potential benefits of compassion-based interventions on a range of outcomes, but further research with improved methodological rigor and larger-scale trials is warranted to enhance the evidence base.

Training Transfer

The third research question was related to the training transfer. Most studies did not assess training transfer measures, nor longitudinal measures demonstrating the effectiveness of long-term effects. Some studies (Orellana-Rios et al. 2017); Santos et al. 2022 ; Scarlet et al. 2017) emphasised participants' application of learned techniques in their work settings and daily practices, but explicit measurement of this application in the daily work was lacking. Moreover, in certain studies (Mascaro et al. 2023; Santos et al. 2022) participation in interventions was mandatory and scheduled during work hours.

Only one study utilised a mixed-method evaluation approach (Orellana-Rios et al., 2017), incorporating semi-structured interviews and a self-constructed questionnaire to assess integration into work life, motivation, available resources, distressing aspects, and the relationship between compassion and personal well-being.

These insights highlight the need for more comprehensive evaluation methods in compassion-based interventions and training transfer. A focus on assessing training transfer measures and the long-term impact of interventions is essential to understand their effectiveness fully. Additionally, highlights the importance of exploring different evaluation approaches to enhance its benefits for both employees and organisations.

Discussion

The study aimed to synthetise the evidence of compassion-based interventions in organisations. The 3 research questions focused on investigating whether these types of interventions have a positive impact on employees' mental health and well-being, and which are

the mechanisms, more specifically process evaluation and training transfer, that renders these interventions effective. In this section, we will answer all the research questions.

Our first research question focused on the meta-analytical effectiveness of compassion-based interventions. The quantitative results indicated no significant effects of distress and depression when exploring pre-post intervention changes. These findings can be attributed to several factors. First, the limited number of eligible studies (nine) with measures of distress (six studies), and depression (five), may have restricted the statistical power to detect significant effects. Second, the quality of these studies was relatively low, with deviations from specific standardised protocols and small to medium sample sizes ranging from 18 to 95 participants, impacting analysis precision. In fact, only two studies adopted a randomised-controlled trial (RCT) design to test compassion intervention effectiveness. Secondly, concerns arose about the overall quality of the journals where these studies were published, raising questions about the evaluation process's rigor. Finally, insufficient longitudinal data hindered the assessment of long-term outcomes, with only four studies reporting follow-up.

Our second question centred on the identification of process evaluation mechanisms. Our approach to process evaluation follows the model proposed by Linnan and Steckler (2002), which involves documenting and reporting seven key points: context, reach, dose delivered, dose received, fidelity, implementation, and recruitment. Only one study considered all seven key points, indicating that most interventions did not adequately consider the process evaluation, potentially impacting their effectiveness.

Considering the context, all interventions were implemented within organisations, although some focused-on employees in general, introducing potential bias, as organisational support can influence participation. However, none of the studies examined how contextual variables might impact the process evaluation.

For reach, all studies mentioned the total number of participants and the presence of a control or waiting list. However, only a few studies mentioned if all organisation members were invited to participate, making it difficult to determine adequate reach. Furthermore, there is insufficient information on how effectively the intervention engaged the target population.

Regarding fidelity, only four articles mentioned the protocol or theoretical framework followed, but no studies measured protocol adherence.

To ensure appropriate intervention implementation, four crucial components are considered: reach, dose delivered, dose received, and fidelity. Four studies achieved 100% implementation, suggesting its significance in determining intervention effectiveness and its impact on results.

Finally, seven studies considered participant recruitment, but further details were lacking. Effective recruitment strategies are essential to ensure that the intervention reaches the intended target population, ensuring meaningful participation and engagement. Another important factor is if the participation is voluntary or not, if participation in compassion-based interventions is not voluntary, it can have potential implications for the effectiveness and ethical considerations of the intervention. Involuntary participation raises concerns regarding the autonomy and agency of the individuals involved.

Our third research question addresses transfer of training. The reviewed articles shed light on the lack of training transfer measures. First, none of the studies followed the model proposed by Baldwin and Ford (1988), which considers trainee characteristics, training design, and contextual factors. This suggests missed opportunities to fully understand and optimise the training transfer from compassion interventions to the workplace.

Furthermore, the measurement of participant's application of learned practices is lacking, this is crucial for evaluating the transfer of training and understanding the real-world impact of the interventions. Additionally, the support participants received from their organisations or leaders for applying what they learned remains unclear, this potentially can enhance intervention effectiveness and sustainability.

Another important aspect is the absence of follow-up assessments in some studies, with the focus primarily on pre- and post-intervention measurements. Another aspect is the lack of control groups to determine whether the improvements in well-being or other outcomes are truly attributable to the compassion intervention itself or to other factors. Without control groups it is challenging to establish a clear causal relationship between the intervention and the observed

outcomes, and without longer-term assessments it becomes difficult to determine if there was a transfer of learned skills and sustained effects over time.

Framework for Evaluating the Effectiveness of Compassion-based Interventions in the Workplace

The inconsistencies and lack of information in the included articles hinder the design and evaluation of future compassion-based interventions in the workplace. To address this, we have developed a four-phased framework (Figure 4) for evaluating such interventions, focusing on structural elements, process evaluation, training transfer elements, and well-being outcomes. This framework provides valuable guidance on data collection and effectiveness measurement when implementing compassion-based interventions in the workplace.

Structural Elements	Process Evaluation	Training Transfer	Well-being Outcomes

• **Standardised definition of Compassion**
• **Mechanism of action**
  • Co-workers support
  • Supervisors support
  • Trust
	• **Context**
	  • Environmental characteristics
	  • Social characteristics
	  • Organisational characteristics
	  • Core cultural values
	• **Reach**
	  • Number of participants that attended vs recruited participants
	  • Demographic variables
	• **Dose Delivered**
	  • Number and length of sessions
	  • Possible changes and adjustments
	• **Dose Received**
	  • Number of sessions
	  • Number of participants that attended each session
	  • Skills and knowledge transfer to daily work
	• **Fidelity**
	  • Core components
	  • Strategies
	  • Activities
	  • Measure accuracy of protocols applied
	• **Implementation**
	  • Reach
	  • Dose delivered
	  • Dose received
	  • Fidelity
	• **Recruitment**
	  • Number of people invited to participate
	  • Awareness campaign
	  • Voluntary participation
		• **Frequency and context to practice of specific skills**
		  • Transfer climate
		  • Accountability of using skills
		• **Opportunity to use learning in daily work**
		• **Support from colleagues, supervisors and organisation to apply learned skills**
			• **Measure Compassion as an outcome**
			• **Assess long term effects with follow-up measures (longitudinal growth models)**
			• **Well-being variables (e.g., anxiety, depression, stress, happiness, engagement)**

Figure 4

Assessment of the Effectiveness of Compassion-based Interventions in the Workplace Framework

Structural elements

There is considerable variation how compassion is defined and measured across the reviewed articles. This presents an opportunity to consolidate research in the field by developing a consensus on the definition of compassion to unify different theoretical perspectives (Bishop

et al., 2004). Similarly, it would be beneficial to consistently measure key variables, especially in interventions targeting psychological mechanisms of action. This includes measuring compassion as a key variable to assess the manipulation check process in various experimental designs. Other variables of interest as mechanisms of action could include prosocial effects of compassion and workplace social resources (e.g., co-worker support, supervisor support, trust, among others).

Furthermore, studies often fail to distinguish between mindfulness, self-compassion and compassion towards others. These constructs share similar theoretical foundations and development techniques (i.e., meditation). However, it is vital to recognise that different interventions may have distinct outcomes and effects. Without proper differentiation, interpretations can be unclear, and understanding can be confounded. Accurate discernment and separate measurement of each construct are crucial to comprehensively understand their individual and combined effects in the workplace.

Process Evaluation

Future research in this field should strive to report key points on the model proposed by Linnan and Steckler (2002). Specifically, context should include details about environmental, social, and organisational characteristics. For example, Andersson et al. (2022) provided a detailed report on the type of organisational settings they intervened upon (i.e., a social services public agency and a private company in the finance sector). Incorporating societal level distinctions, such as core cultural values (Hofstede, 2001) can add further nuance. By considering and reporting contextual factors, researchers and practitioners can better understand the success or failure of compassion-based interventions in specific settings. It also enables the generalisability and adaptability of interventions in different settings, enhancing their relevance and effectiveness (Babaei et al., 2017). Reporting contextual factors promotes transparency, allowing the scientific community to critically evaluate and compare interventions across diverse contexts.

Next, reach and recruitment provide valuable insights into the representativeness and generalisability of findings. Understanding who is reached and recruited helps assess the

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external validity of the intervention or study, ensuring applicability to the intended population. Reporting reach and recruitment identifies disparities or barriers influencing participations rates, thus improving intervention accessibility and inclusiveness. For instance, Orellana-Rios et al. (2017) reported that all the staff members of a palliative care centre in a faith-based community were invited to participate in a mindfulness and compassion intervention program, and they were recruited by means of internal advertising campaigns delivered through the commonly used institutional communication channels. To enhance this information, authors could have also reported the ratio of total number of workers versus recruited participants of the intervention, as well to assess whether there are meaningful differences amongst both groups in terms of demographic variables.

Additionally, understanding and reporting dose delivered, and dose received elements help determine the actual level of engagement and compliance amongst participants, which can influence the intervention's effectiveness. It also allows for the identification of potential variations in participants' experiences, enabling researchers to explore the relationship between dose received and intervention outcomes. For example, all studies included in the present review reported on the number of sessions delivered and the number of participants that completed each session but failed to provide a more detailed account of how the participants put the different skills into practice, and how frequently they engaged with those.

Finally, understanding fidelity allows researchers and practitioners to determine if the intervention was implemented with high quality and integrity. Fidelity assessment helps identify any modifications, adaptations, or deviations from the original design, which can have implications for the interpretation of outcomes. It also allows for the replication or adaptation of successful interventions in other contexts by providing clear guidelines on how the intervention should be implemented. As an example, five out of the four studies included in this review reported adherence to a standardised protocol, but the remaining four failed to provide a more comprehensive description of their adherence to their customised protocols.

Overall, understanding and reporting context, reach, dose delivered, dose received, fidelity, implementation, and recruitment contribute to the validity, generalisability, and

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applicability of health promotion interventions and research, facilitating evidence-based practice and the improvement of workers health and wellbeing. Additionally, understanding and reporting process evaluation elements contributes to the scientific understanding of the intervention's mechanisms and processes. It enables researchers to identify the key components, strategies, or adaptations that may have influenced the outcomes, providing a foundation for evidence-based practice and the development of effective interventions.

Training Transfer

We offer a few recommendations to improve the evaluation and reporting process of compassion interventions. Primarily, we recommend that researchers focus on assessing specific training transfer variables such as frequency and work environment influences (transfer climate, opportunity to perform, accountability) of practice of specific skills learned in the training (Burke & Hutchins, 2007).

There is also an absence of measures assessing training transfer mechanisms. By not including measures of training transfer, the included articles fail to capture the real-world effectiveness and practical application in the daily work. Understanding the training transfer of learned compassion skills into daily work activities is essential for evaluating the long-term and sustainability of the effects of the interventions (Sinclair et al., 2021). It also hinders the identification of factors that facilitate or impede the successful transfer of compassion training, preventing the development of targeted strategies to maximise the integration of compassionate behaviours in the workplace (Sinclair et al., 2021).

Incorporating robust measures of training transfer can provide valuable insights into the practical utility and organisational impact of compassion-based interventions, enhancing their effectiveness and promoting compassionate work cultures. Moreover, it is important to investigate how factors such as motivation and self-efficacy influence training transfer, also examine participants characteristics and motivation, to better identify individual differences that may influence the transfer process (Blume et al., 2010). Future research should also include contextual factors (i.e., leaders support, organisation support, organisational resources) to shed light if either they facilitate or hinder training transfer. Also, it would be interesting to conduct

multilevel analyses, and examine how various contextual factors interact with specific

mechanisms to produce outcomes. This approach would provide valuable insights into the

underlying processes and conditions that contribute to the success or failure of the intervention.

Well-Being Outcomes

It is worth noting that many studies do not measure compassion as an outcome of the

interventions. This omission hinders the ability to fully grasp the transformative effects of

compassion interventions on individuals' compassionate behaviours and attitudes. Not

measuring compassion as a direct result of the intervention, researchers and practitioners miss

the opportunity to understand and quantify the extent to which these interventions successfully

cultivate and enhance compassion in employees. Measuring compassion as an outcome would

provide valuable insights into the effectiveness of compassion-based interventions and their

potential to foster a culture of compassion within organisations (Strauss et al., 2016). Such

assessments would enable researchers and practitioners to gauge the impact of these

interventions not only on individual well-being but also on the broader social dynamics and

relationships within the workplace.

We also suggest the measurement of the mid to long term effects of these kinds of

interventions, utilising longitudinal data designs and several follow-up measurements. Potential

analytical approaches to incorporate could include longitudinal growth models (Grimm et al.,

2016; Strauss et al., 2016).

Additionally, it is crucial to acknowledge the inadequacy of measuring well-being as an

outcome in most of the studies. The included studies primarily measured distress and negative

outcomes rather than focusing on promotion of mental health and well-being in the workplace,

which is in line with the World Health Organisation (WHO, 2001) definition of health as a state

of complete physical, mental, and social well-being, but is not merely the absence of negative

aspects but also for the individuals to thrive and flourish. By predominantly focusing on

negative impacts, the research overlooks the complete range of employees' well-being (i.e.,

engagement, job satisfaction, resilience). Not measuring and prioritising well-being, the

comprehension of the positive effects that compassion-based interventions can have on an

individual's overall wellbeing (i.e., quality of life, job satisfaction, work experience) remains limited. To gain a comprehensive understanding of the potential benefits of compassion-based interventions, future studies should incorporate well-being measures that encompass both the absence of distress and the presence of positive mental health outcomes.

Future studies should aim to overcome these limitations by employing larger and more diverse samples, using rigorous experimental designs, exploring different employee groups, publishing in high-impact journals, distinguishing between related constructs, focusing on well-being promotion, and measuring compassion as a distinct outcome variable.

Limitations and future research

The current study has several limitations. First, there is a scarcity of the included studies that meet the inclusion criteria, with only nine studies fulfilling the requirements, and six and five including measures of distress and depression respectively. The limited number of studies hinders the generalisability of findings, also the limited number of studies restricts the breadth of data available for analysis, potentially leading to biased inconclusive results. Related to this, most of the studies that empirically evaluated compassion interventions used a pre-post design without a control group. This is against the RCT, the gold standard method to evaluate intervention effectiveness (Guyatt et al., 1995). This seriously compromised the meta-analytic results, as without a control group, it is very difficult to establish that the improvements in employee well-being are due to the intervention or something else. This has led researchers to claim that pre-post effect sizes should be avoided in meta-analyses (Cuijpers et al., 2017). However, with nine articles it was possible to obtain interesting qualitative results about compassion-based interventions. Additionally, this study also provided interesting inputs for implementing and evaluating interventions. In order to draw meaningful conclusions, a broader number of studies are needed.

Second, many of the included studies suffer from low-quality experimental design. The absence of control groups and follow-up measures weakens the internal validity of the research, making it difficult to establish comparisons between groups and examine the long-term effects of compassion-based interventions, and it is also challenging to ascertain whether the observed

effects are a direct result of the intervention or influenced by other variables. It can be inferred that this information was not assessed or included in the studies because most of them are pilot studies.

Another significant limitation is the narrow focus on healthcare professionals (HCPs) in most studies. While understanding the impact of compassion-based interventions on HCPs is undoubtedly important, it limits the generalisability of the findings to other occupational settings. The unique characteristics and demands of healthcare settings may influence the outcomes of the interventions differently than in other organisational settings. Nonetheless, it is understandable that most studies are focused on the field of healthcare, given that compassion is considered a personal resource that helps HCPs to promote mental health and well-being, as well as help to prevent and cope with job demands (Bramley & Matiti, 2014). To obtain a more comprehensive understanding of the effectiveness of these interventions, future studies should incorporate diverse samples from various industries and professions.

One further limitation of the study is the incomplete fulfilment of the key components of the process evaluation in the included studies. This highlights the lack of integration of process evaluation within the research. The findings demonstrate the significant influence of process evaluation on the effectiveness of interventions, underscoring the crucial need to incorporate it. By not evaluating the process involved in implementing compassion-based intervention in organisations, researchers and practitioners miss out on valuable insights that can enhance intervention outcomes and inform future implementation strategies. Incorporating a robust process evaluation framework can provide a deeper understanding of how interventions are delivered, received, the reach, fidelity, implementation and how the context and recruitment techniques may influence the effectiveness, ultimately contributing to more effective evidence-based intervention in the field of compassion (Moore et al., 2015).

Conclusion

This study aimed to contribute to the existing literature on enhancing the effectiveness of compassion-based interventions in the workplace. The findings of this systematic literature review and meta-analysis shed light on the limited number of empirical studies available and

provide insights into potential mechanisms that influence interventions effectiveness. Building upon these results, a comprehensive model is proposed, addressing the process evaluation and the training transfers of learned skills to daily work practices. Moreover, this study suggests future research directions to further improve the efficacy of compassion-based interventions in the workplace, with the ultimate objective of enhancing implementation and evaluation standards. By undertaking these efforts, there is an opportunity to elevate the standards of compassion-based interventions, leading to more impactful and sustainable outcomes for individuals and organisations alike.

CHAPTER 5

General Conclusions

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General Conclusions

The main purpose of this dissertation was to provide empirical evidence supporting the role of compassion as a personal resource that can promote well-being in employees, by delving deeper into its antecedents (job social resources) and consequences (healthy employees, healthy organisational outcomes, engagement and burnout), exploring compassion in a broader social and group context considering the multilevel nature of organisations, and shedding light on the mechanisms that make compassion-based interventions in the workplace effective. To achieve this objective and address the knowledge deficiencies in the existing literature three research questions were formulated, and three empirical studies (chapter 2, 3, and 4) were conducted to answer these research challenges. In general, the outcomes of the conducted studies in the dissertation affirmed the primary objective of the project and substantiated all the proposed hypotheses.

The first and second empirical studies (chapters 2 and 3) were conducted with HCPs from different public and private hospitals from Spain. Cross-sectional studies were developed. Data were collected from the HERO Questionnaire (Salanova et al., 2012, 2019), which included 5 items from the adaptation in the healthcare context of the Brief Compassion Scale (San Román-Niaves et al., 2022) and different statistical procedures (multiple analyses of variance, structural equation models, and multiple-group analyses, hierarchical linear modeling) were used to evaluate the hypotheses and synthesise the findings of each study.

The third empirical study (chapter 4) aimed to conduct systematic literature review with meta-analysis to evaluate the effectiveness of compassion-based interventions in the workplace and examining the mechanisms of the evaluation process and those elements that promote training transfer. The effect sizes were analysed, standardised mean difference (SMD) and random effects models were performed.

In the subsequent section, detailed discussions are presented regarding the key aspects, main findings, and contributions of each study to address the research challenges outlined in

chapter 1. Additionally, practical implications, limitations, and suggestions for future research directions are also examined.

Addressing the research challenges

CHALLENGE 1: To what extent compassion can be justified as a significant resource in the workplace?

To address the first challenge of this thesis, chapters 2 and 3 provided evidence highlighting the significance of compassion as a personal resource in the workplace. In chapter 2, it was found that compassion plays a vital role in job social resources, employee well-being, and healthy organisational outcomes, particularly in healthcare professionals (HCPs). The results showed a positive relationship between compassion and job social resources, including coordination, positive leadership, and social support climate. Furthermore, compassion was identified as a mediator between these job social resources and employee well-being indicators such as work engagement, optimism, and resilience. Additionally, the findings suggested that women tend to exhibit higher levels of compassion compared to men.

In examining the relationship between compassion and healthy organisational outcomes, chapter 2 revealed that HCPs who demonstrate higher levels of compassion also display better in-role and extra-role performance, as well as higher commitment to their work. These findings underscore the importance of cultivating compassion as a personal resource to enhance performance and foster a stronger connection with one's work.

The results of chapter 3 indicate that the individual level of compassion is more influenced by the positive characteristics of job social resources rather than job demands themselves. It suggests that job demands have a less direct impact on an individual's compassion. These findings align with the HERO model (Salanova et al., 2012, 2019), which emphasises that compassion acts as a personal resource that enhances the availability of job social resources, subsequently promoting employee well-being and performance. Moreover, the results are in line with the JD-R model (Bakker & Demerouti, 2014), which shows the negative relationship between job demands and burnout. Compassionate HCPs reported lower levels of job demands and burnout, indicating that individuals who possess compassion are more likely to

access and maintain job social resources, which can help alleviate the negative effects of job demands on burnout.

Compassion plays a crucial role as a personal resource in supporting the well-being of HCPs, acting as a protective factor against job demands and burnout while promoting engagement. The study highlights the reciprocal relationship between job social resources and compassion, where positive resources contribute to the cultivation of compassion among HCPs. This, in turn, leads to improved well-being, higher organisational commitment, and better performance. Fostering compassion and providing supportive job social resources can create a positive work environment, benefiting employees.

CHALLENGE 2: Can compassion have positive effects within a broader social and group context rather than solely in individuals?

Chapter 3, in addition to exploring the effects of job social resources, compassion, job demands on employee engagement and burnout, considered the multilevel nature of organisations, highlighting the significance of compassion at both individual and group/team levels. The study provided mixed support for the hypotheses, highlighting important relationships among these variables. Firstly, it was found that job social resources at the group/team level are positively associated with compassion once the negative relationship between job demands and compassion at the individual level is considered. This suggests that high job demands can hinder individuals' capacity to express compassion, while job social resources can facilitate the development of compassion at the group level.

Although job social resources did not moderate the relationship between individual job demands and compassion, individual factors such as personality traits and coping strategies were found to have a stronger influence. Additionally, the study supported the idea that aggregated job social resources at group/team level have a positive impact on engagement once the positive relationship between individual compassion and engagement was considered.

Furthermore, the study revealed that aggregated job social resources at group/team level are negatively associated with individual burnout, even after controlling for the negative relationship between individual compassion and burnout. This suggests that compassionate

HCPs are more likely to engage in positive social interactions and perceive themselves as competent in helping others, thereby protecting themselves from burnout. Additionally, compassionate HCPs are more likely to acquire and maintain job social resources, which can help mitigate the adverse effects of job demands on burnout (Hobfoll, 1989).

It shed light on the importance of compassion in shaping employee well-being, drawing from the perspectives of the JD-R model (Bakker et al., 2022) and the HERO model (Salanova et al., 2012, 2019), in which these models encompass a multilevel approach that considers the different levels of analysis within organisational. Even when considering the significant association between job social resources and these outcomes at the group level, employee engagement and burnout levels would differ without compassion. This underlines the importance of creating a work environment that promotes compassion, where individuals feel acknowledged, supported, and appreciated. Such an environment can enhance employee engagement and reduce burnout levels. Additionally, it is crucial to consider the interplay of various factors at the individual and group/team levels in comprehending the intricate dynamic of employee well-being in the workplace.

Overall, to address challenge 2, chapter 3 demonstrated the significant role of compassion in fostering and promoting well-being. Despite being considered as a personal trait, it was revealed to have an impact at the group/team level within organisations, making this study pioneering in its consideration of compassion at the group/team level while acknowledging the multilevel nature of organisations. Also, highlights the interconnectedness of individuals in a group and the potential for compassion to create a positive and supportive environment for all members.

CHALLENGE 3: Are compassion-based interventions in the workplace effective and which are the mechanisms that make these interventions effective?

The objective of Chapter 3 was to through a systematic literature with meta-analysis assess the effectiveness of compassion-based interventions in organisations, with a focus on their impact on employees' mental health and well-being, as well as the mechanisms that contribute to their effectiveness. Three research questions were explored in this study.

The first research question examined the effectiveness of compassion-based interventions from a meta-analytical perspective. However, the results did not yield significant findings. This could be attributed to the limited number of studies included in the analysis. The small sample sizes and deviations from standardised protocols affected the precision of the analysis. Furthermore, concerns were raised about the quality of the journals where these studies were published, which may have impacted the rigor of the evaluation process. The lack of sufficient longitudinal data also restricted the assessment of long-term outcomes.

The second research question focused on identifying process evaluation mechanisms within compassion-based interventions. It was found that most interventions did not adequately consider process evaluation, with only one study addressing all seven key points (context, reach, dose delivered, dose received, fidelity, implementation, and recruitment; Linnan & Steckler, 2002). This suggests a lack of attention to process evaluation in the development and implementation of these interventions, which can have implications for their effectiveness.

The third research question examined the transfer of training within compassion-based interventions. The findings revealed a lack of measures in this area. None of the studies followed the proposed model for training transfer (Baldwin & Ford, 1988), which highlights trainee characteristics, training design, and contextual factors. This indicates missed opportunities to fully understand and optimise the transfer of learned skills and knowledge from the interventions to the workplace setting. Additionally, there was a lack of information on how the application of learned practices was measured, and the absence of follow-up assessments and control groups limited the ability to establish causal relationships and determine the sustained effects over time.

Despite the limitations observed in the evaluated compassion-based interventions, this study proposes a four-phased "Framework for Evaluating the Effectiveness of Compassion-Based Interventions in the Workplace." By following this four-phased framework, researchers, practitioners, and organisations can design, implement, and collect comprehensive and relevant data to assess the effectiveness of compassion-based interventions in the workplace. This holistic approach allows for a thorough evaluation of various elements, from the definition and

mechanism of compassion to process evaluation, training transfer, and well-being outcomes. The findings obtained through this framework can provide guidelines in making informed decisions to enhance the effectiveness and impact of compassion-based interventions on employee well-being.

In the general conclusion of challenge 3, it became evident that there is a limited number of quantitative studies on compassion interventions in the workplace, with only nine studies included in the analysis. The meta-analytic approach demonstrated that these implemented interventions did not have a significant impact on well-being variables, such as depression and stress. Several factors could account for this outcome, leading the study to explore process evaluation mechanisms and training transfer. The findings revealed that very few studies considered process evaluation, and none examined training transfer. As a result, this thesis aims to contribute to the field by offering a comprehensive framework that provides the necessary guidelines to enhance the effectiveness of compassion-based interventions in promoting employee well-being in the workplace.

Practical Implications

The studies provided in this thesis project provide implications for applied research and practice of compassion at work. It is crucial for organisations to recognise the importance of promoting compassion as a personal resource, as it has far-reaching benefits for individuals and the organisation.

To foster compassionate work environment, organisations should prioritise the recognition and appreciation of employees' work. By creating a culture that values compassion, organisations empower their employees to have excellent results. Furthermore, this thesis places a strong emphasis on the healthcare sector, where it demonstrates that compassion among healthcare professionals not only reduces distress levels but also enhances the quality of service provided to both patients and their families (Mauno et al., 2016). Interventions aimed at increasing compassion should focus on developing prosocial behaviours, as compassion extends beyond self-care and encompasses action that benefits others (Ekman & Ekman, 2017).

Moreover, the dissertation also shed light on the influence of gender on compassion levels. Organisations should consider these gender differences when designing interventions, tailoring them to address the unique needs and perspectives of male and female employees. It is also important to consider the specific context of the organisation. Different types of organisations may have varying structures, cultures, and challenges, which can impact the effectiveness and sustainability of interventions. Designing interventions to the specific organisational context can enhance their relevance and impact.

Besides, the thesis also revealed the positive influence of compassion at the group level. The study demonstrated that compassion positively impacts on job social resources at a group/team level, individual engagement and reducing individual burnout. Practitioners and researchers can implement interventions that promote compassion among team members, fostering a supportive and empathetic work environment. By nurturing job social resources at the group/team level, organisations can further enhance compassion and collaboration among employees and leaders.

Finally, we proposed a comprehensive evaluation framework for compassion-based interventions in the workplace, based on Baldwin and Ford (1988) and Linnan and Steckler (2002) models considering essential elements, including the structural components of the intervention, process evaluation, training transfer elements, and well-being outcomes. By utilising this framework, organisations can gain valuable insights into the impact of compassion-based interventions and make informed decisions to foster a compassionate work environment. Ultimately, this framework contributes to the advancement of knowledge in promoting compassion and well-being in the workplace.

Limitations and Future Research

This dissertation has several limitations that should be considered for a better understanding of the results. Firstly, the cross-sectional design in Chapters 2 and 3 does not allow us to from making predictive conclusions about the causal order of the variables. Although it is worth highlighting that these studies were conducted with large samples and sophisticated analyses, such as SEM and multilevel analyses. To address this, future research

should focus on conducting longitudinal studies to determine the causal relationship between the variables. Another limitation is the reliance of self-reported data, which may introduce bias due to social desirability (Caputo, 2017). However, the absence of the common variance in the data was confirmed through the Harman Test and aggregate data at group/team level was used, which increases the validity of the scores.

As regards the sample, in Chapter 2, the sample mostly consisted of female staff, but it should be noted that the more than 75% of working population in the healthcare sector are women (Boniol et al., 2019). For future studies, it is important to consider the gender variable to assess the differential effects of gender and how it influences compassion. In Chapter 3, the sample included healthcare professionals from different departments, hospitals, and job positions, resulting in a heterogeneous sample. This may be a limitation, as the types of work performed in different positions, departments, or services may vary significantly. However, it is worth noting that the fact that participants in the studies belong to different healthcare centers and services/care units brings the perspective closer to the reality of what hospitals and services/care units are in Spain.

Furthermore, both Chapter 2 and Chapter 3 collected data before the COVID-19 pandemic, which may affect the validity of the results given the significant changes in job demands caused by the pandemic. Nevertheless, these findings provide an opportunity to design positive psychological interventions aimed at fostering compassion and engagement while mitigating burnout among healthcare professionals in post-pandemic settings. Additionally, the results underscore the significance of cultivating job social resources that contribute to overall well-being in the healthcare workforce.

Another limitation is that single items were used to measure certain variables, even so, there are previous evidence supporting their validity (Schaufeli et al., 2017: Houdmont et al., 2022) and it is justified to adopt this approach. In addition, in evaluating the Brief Compassion Scale, it was observed that the overall score was low, prompting the consideration of discarding the lowest scoring item. However, this idea was reconsidered due to the moderate Cronbach's Alpha, which was found to be above the acceptable threshold (Brown, 2002). By retaining the

entire scale, the integrity and comprehensiveness of the construct were preserved, ensuring a more accurate representation of Compassion as a personal resource.

The systematic review and meta-analysis study (Chapter 4) has a limited number of included studies, that met the inclusion criteria, being only 9 studies that fulfilled the requirements. This limited number of studies impedes the generalisability of findings and restricts the breadth of available data, potentially leading to biased and inconclusive results. Nonetheless, valuable qualitative findings were achieved, yielding valuable insights for the implementation and assessment of interventions. Moreover, most of the included studies have low-quality experimental designs, including the absence of control groups and follow-up measures. This compromises the internal validity of the research, making it difficult to compare groups and examine long-term effects. The data suggests that the information was not evaluated or incorporated in the studies primarily due to their nature as pilot studies. Future studies should address these limitations by employing larger and more diverse samples, rigorous experimental designs, exploring different employee groups, publishing in high-impact journals, distinguishing between related constructs, focusing on well-being promotion, and treating compassion as a distinct outcome variable.

FINAL NOTE

This dissertation delves into the significance of compassion within the workplace and its positive influence on employee well-being. By shedding light on the importance of compassion, the research adds valuable insights to the existing scientific evidence supporting the HERO model and the JD-R theory.

The dissertation's strength lies in its comprehensive approach, which involves conducting three quantitative empirical studies. These studies utilise different methodologies, such as SEM, HLM, and meta-analytic strategies, to examine and validate the role of compassion in fostering employee well-being. Through these varied research methods, the thesis establishes a strong foundation for understanding the link between compassion and its impact on individual and organisational outcomes.

Furthermore, makes a noteworthy contribution by exploring the effects of compassion at the group level. By acknowledging the potential impact of compassion on entire workgroups, the research addresses the interconnectedness of individuals within a group or team. This recognition of compassion's ripple effect within a group setting adds depth to our understanding of how positive emotions and behaviours can shape the overall work environment.

One of the key takeaways from this dissertation the proposal of a practical model that aids both researchers and practitioners in developing, implementing, and evaluating compassion-based interventions in work settings. By offering a structured framework, we provide valuable tools to promote compassion within organisations, leading to enhanced employee well-being and overall performance.

Additionally, the thesis emphasises the importance of process evaluation and training transfer in ensuring the effectiveness of compassion-based interventions in the workplace. By focusing on these aspects, the research highlights the need to not only implement compassionate practices but also to assess their impact systematically and facilitate their integration into daily work.

In summary, this thesis not only highlights the significance of compassion in the workplace but also contributes to a deeper understanding of its implications for individual, group, and organisational well-being. By providing empirical evidence and proposing practical approaches, the research lays the foundation for cultivating organisational cultures that are healthier and more compassionate.

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SUMMARY (English)

The main goal of this dissertation is to contribute to the expanding body of literature on compassion in the workplace by examining how compassion impacts individuals' mental health, well-being, and performance in the organisations. With this main objective, three fundamental research questions are formulated and organised into three different research challenges. These challenges will guide the specific aims of this dissertation.

Research Challenge 1: To what extent compassion can be justified as a significant resource in the workplace?

Research Challenge 2: Can compassion have positive effects within a broader social and group context rather than solely in individuals?

Research Challenge 3: Are compassion-based interventions in the workplace effective and which are the mechanisms that make these interventions effective?

Throughout the chapters of this dissertation, these challenges have been addressed through three empirical studies (Chapter 2, 3, and 4). Firstly, Chapter 2 presents an empirical study focused on examining the mediating role of compassion between social job resources, healthy employees, and healthy organisational outcomes. Chapter 3 investigates compassion as a psychological mechanism that explains how social job resources are related to engagement and burnout, considering the multilevel nature of organisations at both the individual and group/team levels. Lastly, Chapter 4 is a systematic review with meta-analysis that explores the effectiveness of compassion-based interventions in the workplace, along with the mechanisms that make these interventions effective, specifically process evaluation and training transfer. These chapters are framed by an overarching introduction (Chapter 1) and final general conclusions (Chapter 5).

In general, the findings from the conducted studies supported the main objective of the project and corroborated the proposed hypotheses. Furthermore, these findings contribute to advancing the understanding of the role of compassion in the workplace by providing empirical evidence in favour of its positive impact on variables related to well-being.

RESUMEN (Español)

El objetivo principal de esta tesis es contribuir a la literatura sobre la compasión en el trabajo, examinando cómo la compasión afecta la salud mental, el bienestar y el desempeño de las personas en las organizaciones. Con este objetivo principal, se formulan tres preguntas fundamentales de investigación y se organizan en tres desafíos de investigación diferentes. Estos desafíos servirán de guía general de los objetivos específicos de esta tesis.

Reto de Investigación 1: ¿Hasta qué punto puede justificarse la compasión como un recurso significativo en el lugar de trabajo?

Reto de Investigación 2: ¿La compasión puede tener efectos positivos dentro de un contexto social y grupal más amplio en lugar de solo en los individuos?

Reto de Investigación 3: ¿Son efectivas las intervenciones basadas en la compasión en el lugar de trabajo y cuáles son los mecanismos que hacen que estas intervenciones sean efectivas?

A lo largo de los capítulos de esta tesis, estos desafíos han sido abordados a través de tres estudios empíricos (Capítulos 2, 3 y 4). En primer lugar, el Capítulo 2 presenta un estudio empírico centrado en examinar el papel mediador de la compasión entre los recursos sociales del trabajo, los empleados saludables y los resultados organizativos saludables. El Capítulo 3 investiga la compasión como un mecanismo psicológico que explica cómo se relacionan los recursos sociales del trabajo con el compromiso y el burnout, considerando la naturaleza multinivel de las organizaciones tanto a nivel individual como grupal/equipos. Por último, el Capítulo 4 es una revisión sistemática con meta-análisis que explora la efectividad de las intervenciones basadas en la compasión en el lugar de trabajo, junto con los mecanismos que hacen que estas intervenciones sean efectivas, específicamente la evaluación del proceso y la transferencia del entrenamiento. Estos capítulos están enmarcados por una introducción general (Capítulo 1) y conclusiones generales finales (Capítulo 5).

En general, los hallazgos de los estudios realizados respaldaron el objetivo principal del proyecto y corroboraron las hipótesis propuestas. Además, contribuyen a avanzar en la

comprensión del rol de la compasión en el entorno laboral al proporcionar evidencia empírica a favor de su impacto positivo en variables relacionadas con el bienestar.

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