



Different empathy types show opposing associations with burnout: systematic review and meta-analyses

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ABSTRACT

Burnout, characterized by emotional exhaustion, depersonalization, and a diminished sense of personal accomplishment, has become an increasingly pressing issue in recent years. The current research aimed to clarify whether empathy is associated with higher or lower levels of burnout as measured using the Maslach Burnout Inventory, and to explore whether this relationship depends upon the nature of the empathic construct (cognitive, compassion, or contagion) being assessed. Through a systematic review of existing literature, we obtained 73 usable articles (79 samples), representing 20 595 participants. Overall, higher empathy was significantly associated with lower emotional exhaustion, Hedges's $g = -0.10$ (95%CI [-.16, -.03], $p = .005$), and lower depersonalization, Hedges's $g = -0.28$, (95%CI [-.37, -.20], $p < .001$). Higher empathy was also associated with significantly greater personal accomplishment, Hedges's $g = 0.37$, (95%CI [.28, .45], $p < .001$). These main effects were moderated by the empathy construct: *Cognitive* empathy and *Compassion* were associated with lower burnout symptoms, whereas emotional *Contagion* was associated with higher burnout symptoms. These results were consistent across healthcare and non-healthcare professionals. Overall, other-oriented empathy constructs appear protective against burnout, while self-oriented empathy constructs may be a risk factor. Thus, practitioners need not avoid trying to understand or feel compassion for their patients but may wish to avoid mirroring their patients' feelings.

ARTICLE HISTORY

Received 18 June 2025

Accepted 12 November 2025

KEYWORDS

Empathy; burnout; emotional exhaustion; depersonalization; personal accomplishment

A lot of people in helping professions – doctors or therapists or first responders – if they have too much empathy, they have to drop out. They get burned out.

Paul Bloom, author of *Against Empathy* (Tremonti, 2017)

Having empathy for the needs and hardships of others is considered a valued and positive trait by the general population (Sassenrath, 2020) and a critical skill among counseling and psychotherapy professionals (Elliott et al., 2011). Yet, as the opening quote demonstrates, some hold the belief that there are negative consequences of being too empathic, namely, that empathy may lead to burnout, especially in professional roles that require regular interaction with and acknowledgement of others' emotions. Terms such as

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Supplemental data for this article can be accessed online at <https://doi.org/10.1080/13548506.2025.2591859>.

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‘empathy burnout’ gained popular traction amidst the COVID-19 pandemic (Dekin, 2021; Garis, 2020; Shea, 2020), where nurses, teachers, and other helping professionals reported expending excessive energy caring for others’ emotional needs, leading to burnout symptoms. While many researchers have investigated the link between empathy and burnout, the empirical evidence regarding the relationship between the two constructs is inconsistent. Some studies find that higher empathy is related to higher burnout symptoms (e.g. Omdahl & O’Donnell, 1999; Petitta et al., 2017; Tei et al., 2014; Verbeke, 1997), yet other studies find that higher empathy is related to lower burnout symptoms (e.g. Kellner, 2000; Thomas et al., 2007). To help disentangle these empirical inconsistencies, we present a series of three meta-analyses examining the relationship between three symptoms of burnout and empathy. Using data from 79 samples, we test whether this relationship depends upon the type of empathy measured.

What is burnout?

Burnout is defined as the multidimensional experience of *emotional exhaustion*, *depersonalization*, and *reduced feelings of personal accomplishment* in response to chronic stressors at work (Maslach, 1993). Emotional exhaustion refers to feeling emotionally overextended, overwhelmed, or depleted of emotional resources, and is generally regarded as the most central component, or ‘essence’ of burnout (Koeske & Koeske, 1989). Depersonalization refers to negative, calloused, or excessively detached responses toward the people in their care, including feelings that these individuals may deserve what they suffer. Some researchers have described this component of burnout as a lack of empathy for others (e.g. Adarkwah et al., 2018; Moss et al., 2016). Finally, reduced feelings of personal accomplishment or professional efficacy refer to feelings of a lack of achievement or competency at work, regardless of one’s actual achievements.

Beyond these three defining symptoms, the literature has introduced several related constructs that share conceptual ground with burnout. Of particular note is compassion fatigue, sometimes referred to as secondary traumatic stress (Coetzee & Klopper, 2010; Figley, 1995; Sorenson et al., 2016). Which has been defined as ‘a combination of physical, emotional, and spiritual depletion associated with caring for patients in significant emotional pain and physical distress’ (Lombardo & Eyre, 2011, p. 1). Compassion fatigue and secondary traumatic stress are typically applied to healthcare professionals specifically, whereas burnout is used more broadly to describe chronic workplace stress across a range of occupations, not limited to caring for patients in distress (Deriglazov et al., 2025). There is some disagreement regarding the causal relationship between these constructs. Some researchers suggest that burnout precedes compassion fatigue (Pehlivan & Güner, 2018), others that compassion fatigue leads to burnout (Kishimoto & Asano, 2024; Rauvola et al., 2019). What is clear, however, is that burnout and compassion fatigue are highly correlated among helping professionals (Zhang et al., 2018) and share substantial conceptual overlap (Fiskeaux et al., 2025). In this review, we focus on burnout to provide broader applicability across occupational groups.

The relationship between empathy and burnout

Given the negative implications of burnout, it is important to understand what factors may increase someone's risk for experiencing burnout or protect someone against it. The Job Demands-Resources model of burnout (JD-R; Demerouti et al., 2001) describes how various individual characteristics and working conditions may be related to experiences of burnout. Although every job has its own unique attributes, this model categorizes these attributes as either *demands* or *resources* to understand various predictors of burnout. Demands refer to the physical, social, or organizational aspects of a job that deplete one's energy, physically or emotionally. For example, overload, role ambiguity, and conflict are all demands that have been associated with higher burnout symptoms (Hindin, 2007; Maslach & Leiter, 2016). In contrast, resources are factors that help protect against burnout by either (a) helping achieve work goals, (b) reducing job demands, or (c) rewarding personal growth and development. Both resources and demands can be located at the individual-level (e.g. personality traits like conscientiousness, prior vulnerabilities), interpersonal relationships-level (e.g. supervisor support, workplace friendships), and the organizational-level (e.g. working hours, compensation).

This paper focuses on one relevant individual characteristic that has garnered much empirical attention both as a possible job demand and as a possible job resource: *empathy*. Based on the Job Demands-Resources model, empathy may contribute to burnout when it acts as an emotionally exhausting demand, but it may mitigate burnout when it serves as an emotionally rewarding resource. We argue that both theoretical predictions could be empirically supported, depending upon how a researcher defines and measures empathy.

Three distinct empathy constructs

The term 'empathy' is both a commonly used term by academics (e.g. Batson, 2011; Darwin, 1871; McDougall, 1908), and also a buzzword used by the media and everyday conversations. Despite this, psychological science has not established a common definition for empathy (Cuff et al., 2016; Davis, 2018; Hall & Schwartz, 2019; Neumann et al., 2015), though many agree it has a multidimensional nature (e.g. Davis, 1983). Exactly how many dimensions, and how they should be defined is still hotly debated (Martingano et al., 2025) with scholars recently suggesting as many as seven dimensions (Davis et al., 2025).

The many distinct features and lower order constructs of empathy have, however, been organized into conceptual taxonomies (e.g. Batson, 2009; Davis, 1983; Decety & Jackson, 2004). The most discussed conceptual taxonomy involves a distinction between *cognitive* versus *emotional* processes, which differentiate between one's tendency to mentally recognize others' psychological experiences and one's affective reactions to others' experiences (Hall & Schwartz, 2019; Martingano & Konrath, 2022). These two empathic processes were outlined at least as early as the 18th century (Smith, 1759) and have more recently received empirical support through the discovery of their distinct neural mechanisms (Moore et al., 2015; Shamay-Tsoory, 2011; Yu & Chou, 2018).

Cognitive empathy refers to the attempted or achieved mental perception and/or understanding of others' psychological states, including emotions and preferences (e.g.

Brothers, 1990; Levenson, 1996; Sened et al., 2017). Developmental psychology research suggests that this tendency is first learned around 3–5 years of age and is sometimes described as mentalizing or ‘theory of mind’ (Baron-Cohen et al., 1985; Flavell, 1999; Premack & Woodruff, 1978). The Perspective Taking subscale of the Davis Interpersonal Reactivity Index (IRI; Davis, 1983), a widely used measure of trait empathy, attempts to capture cognitive empathy through self-report items such as, ‘*I sometimes try to understand my friends better by imagining how things look from their perspective*’. In some cases, researchers add the criterion of accuracy (e.g. Besel & Yuille, 2010). For example, some scholars measure cognitive empathy by showing individuals photographs or videos of others and asking them to identify which emotion, or psychological state, the person in the photograph/videotape was experiencing (e.g. Reading the Mind in the Eyes Test, Baron-Cohen et al., 2001; empathic accuracy paradigm; Ickes et al., 1986). Cognitive empathy can be best thought of as an umbrella term in its own right that encompasses a varied set of lower order empathy constructs including perspective-taking, fantasy, and empathic accuracy (Davis, 1983; Ickes, 1993). What unites them all is the focus on the cognitive understanding of other people’s experiences.

Emotional (or affective) empathy has been described by various theorists as one’s emotional responses to others’ experiences (Batson, 1991; Mehrabian & Epstein, 1972; Stocks et al., 2011), and it develops earlier in life than cognitive empathy (Sagi & Hoffman, 1976). Within emotional empathy, researchers have distinguished between emotional responses that are *other-oriented* and those that are *self-oriented*. The central mechanism that differentiates these two emotional empathy processes is whether the observer engages in self-other merging, which blurs boundaries with the target person experiencing the emotion (self-oriented), or whether the observer maintains a clear distinction between themselves and the other (other-oriented; Batson, Early, et al., 1997; Cuff et al., 2016; de Vignemont & Singer, 2006).

During other-oriented responses to the emotional experiences of others, observers are aware that they are perceiving and reacting to someone else’s emotional experience. This response is generally a positive warmth and nurturing feeling towards others, that is often called *empathic concern* or *compassion*. For example, the Empathic Concern scale of the IRI (Davis, 1983) was created to measure this tendency with self-report items such as ‘*I often have tender, concerned feelings for people less fortunate than me*’.

On the other hand, self-oriented emotional empathy involves observers blurring the boundaries between themselves and a target person, resulting in a mirrored emotional reaction, such that the observer feels as if the target person’s experience were happening to themselves. This conceptualization implies that an empathic person may be predisposed to ‘catch’ either the positive or negative emotions of another (Morelli et al., 2015; Telle, 2016) and has thus been referred to as *emotion contagion* (Hatfield et al., 1994). When researchers focus solely on a person’s tendency to share in the negative emotions of others who are suffering or are in need, this process can be labeled *personal distress*. Davis’s (1983) Personal Distress subscale of the IRI (example item ‘*When I see someone who badly needs help in an emergency, I go to pieces*’) captures this tendency, as do negatively valenced items on emotion contagion scales (example item ‘*If someone I’m talking with begins to cry, I get teary-eyed*’; Emotion Contagion Scale, Doherty, 1997).

In this article, we use a tripartite empathy classification (see Depow et al., 2021) that attempts to cover the three core components of empathy: 1) Cognitive empathy

(understanding the mental states of others), 2) Empathic concern/compassion (having feelings of sympathy or compassion for others), and 3) Emotion contagion (sharing the same emotional reaction as others or feeling distress in response to others' distress). For brevity, these categories are referred to as *Cognitive*, *Compassion*, and *Contagion*. These three categories have been used in previous meta-analyses involving empathy to distinguish separate relationships with each empathy category (e.g. Martingano et al., 2021).

Is empathy a demand or a resource?

The theoretical distinction between other-oriented *Compassion* and *Cognitive* empathy and self-oriented *Contagion* is important to consider when evaluating the potential relationship between burnout and empathy. Based on the Job Demands-Resources model, if an empathic process acts as a demand by increasing stress and depleting one's energy, it should be related to increased burnout. Alternatively, if an empathic process acts as a resource by reducing stress and feeling rewarding, it should be related to reduced burnout. The Caregiving Model of Stress Regulation (CMSR; Konrath & Brown, 2011; Konrath et al., 2012) describes a potential mechanism that discriminates between the possible depleting and rewarding aspects of empathy (see Figure 1 in Konrath & Brown, 2011). According to this model, focusing on others (e.g. engaging in other-oriented compassionate or cognitive empathy) activates a biological caregiving system that evolved to facilitate the creation and maintenance of social bonds (Brown & Brown,

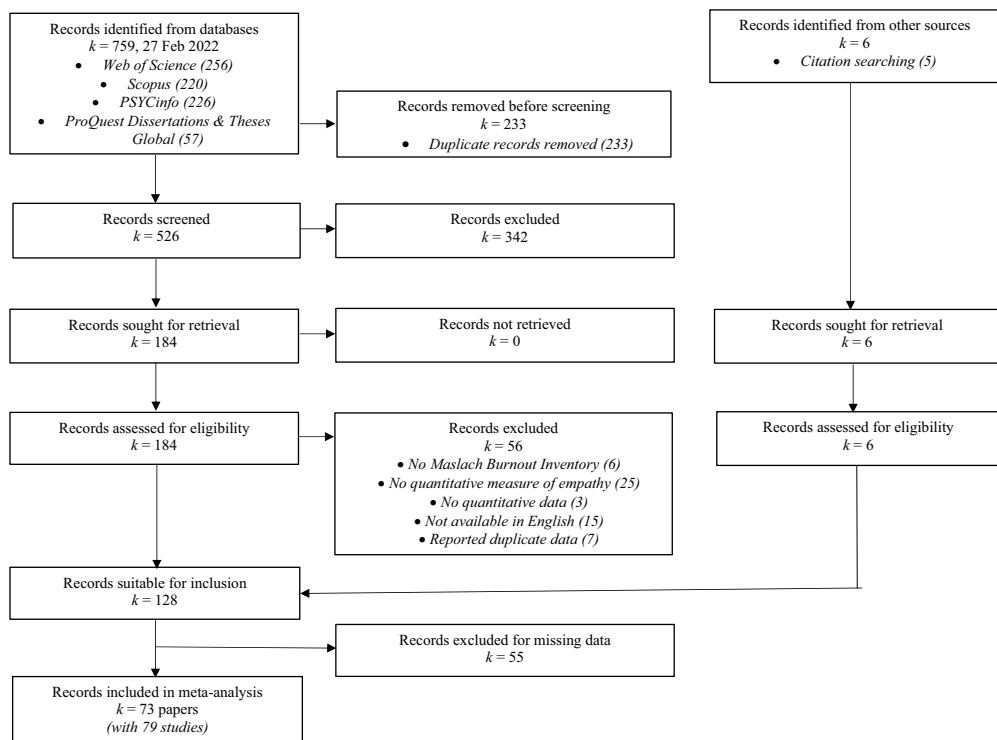


Figure 1. PRISMA 2020 flow diagram.

2006; Brown et al., 2011). When this caregiving system is activated, individuals may be more motivated to engage in altruistic behavior towards others, and subsequently experience more stress regulation and positive feelings. In line with this theory, empirical research finds that *Compassion* and *Cognitive* empathy are both consistent predictors of prosocial behavior (Barnett et al., 1983; Feeney & Collins, 2001; Verhaert & Van den Poel, 2011), and also contribute to building one's self-efficacy and relational competence (Davis & Oathout, 1987; Ferguson et al., 2021; Kokkinos & Kipritsi, 2012), both of which are rewarding in terms of personal growth and development. Other research finds that these types of empathy, whether trait-based (Ho et al., 2014) or experimentally induced (Abelson et al., 2014), predict lower levels of the stress hormone cortisol during stressful situations. Therefore, in the terms of the Job Demands-Resources model, *Compassion* and *Cognitive* empathy may function as resources, thus helping to buffer individuals from burnout.

On the other hand, self-oriented feelings of distress in response to another's suffering should not activate the biological caregiving system. *Contagion* is generally associated with the avoidance of others in distress (Martingano, 2022; O'Connor et al., 2002), or at the very least helping others only for the egoistic motivation of reducing one's own distress (Batson, 2011). When individuals do not engage in helping behaviors towards others, the Caregiving Model of Stress Regulation argues that individuals will not reap the same protective benefits of greater stress regulation and reward (see Konrath et al., 2012). Over time, this could expose a person to exhaustion and feelings of depletion, especially if a person is constantly taking on the (often distressing) emotional experiences of others as if they were their own. Thus, in the terms of the Job Demands-Resources model, *Contagion* may function as a demand, thus increasing individuals' burnout risk.

With this in mind, although research on the relationship between empathy and burnout may appear inconsistent at first, breaking the literature down into these three empathy categories reveals a more consistent pattern. Specifically, higher *Cognitive* empathy is related to lower burnout symptoms (Duarte & Pinto-Gouveia, 2016; Lamothe et al., 2014; Lee et al., 2003). Similarly, higher *Compassion* is related to lower burnout symptoms (Duarte & Pinto-Gouveia, 2016; Lamothe et al., 2014) and lower levels of related concepts such as secondary traumatic stress (Hunt et al., 2019), whereas *Contagion* is often positively correlated with burnout symptoms (Duarte & Pinto-Gouveia, 2016; Omdahl & O'Donnell, 1999; Petitta et al., 2017; Tei et al., 2014; Thomas, 2013; Verbeke, 1997) and also positively correlated with related concepts such as compassion fatigue (Hunt et al., 2019).

Longitudinal and experimental research, that has also produced inconsistent findings, also become somewhat clearer (though not entirely resolved) when distinguishing among different types of empathy. For example, higher *Compassion* predicts lower subsequent burnout, whereas higher distress-related *Contagion* predicts higher subsequent burnout (von Harscher et al., 2018). Experimental work largely supports this pathway: interventions that strengthen *Compassion*, such as simulation-based empathy training or compassionate-mind training, have been shown to reduce burnout (Han & Kim, 2020; Matos et al., 2024). For *Cognitive* empathy, conclusions about causality are less consistent. One longitudinal study found that increases in *Cognitive* empathy predicted later decreases in burnout (Galam et al., 2017), another found the reverse: that changes in burnout predicted later declines in *Cognitive* empathy (Crump et al., 2022); and a third reported

bidirectional effects (Dong et al., 2025). Despite this causal ambiguity, these studies concur that higher *Cognitive* empathy is associated with lower burnout. Nonetheless, ambiguity remains. A recent, well-powered longitudinal study of nurses and nursing students that carefully differentiated empathy types found no longitudinal associations between burnout and empathy of any kind (Altmann & Roth, 2021). Collectively, this body of work underscores the importance of distinguishing empathy's constituent forms when examining its relationship with burnout.

Previous reviews and meta-analyses

There is a clear need for a more systematic approach to investigating the relationship between empathy and burnout. There have been four smaller reviews on the topic (Cairns et al., 2024; Delgado et al., 2023; Wilkinson et al., 2017; Williams et al., 2017; see Appendix A). These papers concluded that there was evidence for a protective relationship between burnout and empathy but noted significant heterogeneity in the results. Two of these recent meta-analyses, Cairns et al. (2024) and Delgado et al. (2023), attempted to explain this heterogeneity and concluded that the relationship between empathy and burnout was moderated by the type of empathy in question. However, these authors only explored a two-facet model of empathy: Cairns et al. examined emotional empathy and cognitive empathy, while Delgado et al. examined empathic concern and perspective-taking. These broad empathy definitions can yield conflicting burnout findings. For example, Cairns and colleagues ($k = 21$) reported no link between 'emotional empathy' and burnout – perhaps because their measure conflated other-oriented empathic concern with self-oriented personal distress, two constructs we argue have opposite relations to burnout. In contrast, Delgado et al. ($k = 5$), using a purer empathic-concern scale, observed a negative association with exhaustion and depersonalization. Both studies lacked the sample size necessary to disentangle exactly which facets of empathy were risk factors for burnout.

The current study

The current systematic review and meta-analyses meets this need by conducting a large-scale review and three separate meta-analyses that allows us to disentangle *Cognition*, *Compassion*, and *Contagion*. We expect to find that *Cognitive* empathy and *Compassion* will be associated with lower burnout, which would be demonstrated by finding negative correlations with emotional exhaustion and depersonalization, and a positive correlation with personal accomplishment. Conversely, we expect that *Contagion* will be associated with higher burnout, demonstrated by positive correlations with emotional exhaustion and depersonalization, and a negative correlation with personal accomplishment.

To assess burnout, we focused our meta-analysis exclusively on the Maslach Burnout Inventory (MBI; Maslach & Jackson, 1986; Maslach et al., 1996) – the most widely used and well-validated self-report measure of burnout (Edú-Valsania et al., 2022), appearing in roughly 90% of journal articles and dissertations on this topic (Schaufeli et al., 2001). The MBI assesses the multidimensionality of burnout via its three subscales of 1) emotional exhaustion, 2) depersonalization, and 3) personal accomplishment. Burnout is

characterized by higher scores on the emotional exhaustion and depersonalization subscales and lower scores on the personal accomplishment subscale.

There are many variations of this inventory adapted for different work sectors and populations (e.g. MBI-Human Service Survey, MBI-Educators Survey, MBI-General Survey). The MBI has also been translated for non-English populations and condensed into abbreviated versions. Across these various versions, the inventory has shown strong psychometric properties (Lin et al., 2022; Schaufeli & Van Dierendonck, 1993; see also De Beer et al., 2024 for a nuanced review). For example, its three factor structure replicates across diverse populations (Enzmann et al., 1995; Schutte et al., 2000), it can be discriminated from other similar constructs (e.g. depression and anxiety; Schaufeli et al., 2001), and it successfully differentiates between individuals classified as burned out or not by clinical psychologists (Schaufeli et al., 2001). Although there are other measures and definitions of burnout available, the MBI predominates among empirical literature and has robust psychometric properties (Schaufeli et al., 2001). Focusing exclusively on the MBI in meta-analyses of burnout has precedent (e.g. Alarcon et al., 2009) and meta-analyses using broader inclusion criteria have found that the studies using the MBI provide one of the most robust measures of burnout (e.g. Koutsimani et al., 2019). For these reasons we focus exclusively on studies incorporating MBI measures of burnout in the present meta-analysis.

Finally, to determine whether empathy and burnout are influenced by study design and sample characteristics, we examine several potential moderators in our analyses, including MBI version used (e.g. full or adapted version), sample characteristics (e.g. healthcare v. nonhealthcare), and manuscript publication year. We examine these moderators in the interests of advancing the field, and thus, see them as exploratory and do not have specific hypotheses. However, examining these additional moderators can help to uncover other potentially relevant factors that may affect the empathy-burnout relationship.

Methods

We conducted a systematic literature review followed by three separate random effects meta-analyses for each of the three symptoms of burnout measured by the MBI (Emotional Exhaustion, Depersonalization, and Personal Accomplishment).

Transparency and openness

We adhered to the PRISMA 2020 guidelines for systematic reviews (Page et al., 2021). All study details, data, research materials (including our coding scheme), and supplementary materials are available via the Open Science Framework https://osf.io/ebqr4/?view_only=c5437576RISMAP0f264369af99df6e1d72b972.

Data were modeled using Comprehensive Meta-Analysis Version 4 (Borenstein et al., 2022). This review project was not preregistered.

Search and screen process

We used a two-step search process to identify as many eligible articles as possible. First, in March 2022, we conducted a database search of PsycINFO, Web of Science, Scopus, and Proquest Dissertations and Theses Global using the following terms: (Empath* OR Sympath* OR Compassion* OR ‘Theory of Mind’ OR ‘Emotion Contagion’ OR ‘Emotional Contagion’ OR ‘Personal Distress’ OR ‘Perspective Taking’ OR ‘Emotion Recognition’ AND Maslach Burnout). Second, we reviewed all the articles identified as eligible via database searches and checked the reference sections of these articles to locate other relevant publications. To obtain unpublished data, we also made public calls for unpublished data on social science forums and listservs such as the Society for Social and Personality Psychology and Medical Education Research and Development (DR-ED).

Articles had to meet four inclusion criteria. (1) Measure burnout using one or more sub-scales of the MBI in any population of participants (e.g. adults, children, healthcare professionals, non-healthcare professionals). Articles that only reported a total burnout score by combining subscales were included, and authors were contacted for subscale specific data. (2) Employ any measure of empathy. (3) Report quantitative data that allows for the calculation of an effect size. Articles were included if they quantified burnout and empathy in the same population, even if the effect size was not directly reported in the manuscript. In that case, we contacted authors to obtain effect sizes. (4) The article was available in English, or the results were described in English in a private communication.

Articles were screened using the systematic review software Covidence. Of the 184 relevant articles obtained after screening (see [Figure 1](#) for PRISMA 2020 diagram), 6 were excluded because they did not use the MBI; 25 were excluded because they did not include a measure of empathy; 3 were excluded because there was no empirical data and an effect size could not be calculated (e.g. review article); 15 articles were excluded because they were not available in English; and 7 were excluded because they reported duplicate data included in another publication. This left 128 articles suitable for inclusion.

We searched the included articles for effect sizes (correlation coefficients) of the relationship between empathy and the three MBI subscales. We contacted authors who discussed collecting relevant data but did not report it or did not do so in sufficient detail (such as not including the N) to obtain this missing data. Authors were contacted twice before the study was excluded based on a failure to obtain data. This process led to the additional exclusion of 55 articles.

Overall, we obtained 73 usable articles (57 published journal articles, 15 dissertations, and 1 edited book chapter), which together included data from 79 separate samples, and 20 595 participants. This makes our study the largest known examination of the relationship between empathy and burnout.

Coding for moderators

The current study investigated four moderator categories to determine if they explained variation in the relationship between burnout and empathy. All moderators were hand-coded based upon the contents of each article, its supplementary materials and, when necessary, after contacting the original authors. In some cases, assumptions and

approximations were made to impute missing data based on information available (see Appendix B). A team of three trained reviewers coded all moderators. Not all reviewers coded every article; instead, articles were distributed across reviewers, ensuring that each article was independently double-coded and then reviewed for consensus.

Empathy type

Studies were coded to indicate which type of empathy was measured. We used three broad categories: *Cognitive*, *Compassion*, and *Contagion*. *Cognitive* empathy included measures of understanding the mental states of others, *Compassion* included measures of empathic concern and feelings of sympathy or compassion for others, *Contagion* included measures of emotion sharing and feeling distress in response to others' distress. Examples of *Cognitive* measures include the Perspective Taking subscale of the Interpersonal Reactivity Index (Davis, 1983) and the Jefferson Scale of Physician Empathy (Hojat et al., 2001). Examples of *Compassion* measures include the Empathic Concern subscale of the Interpersonal Reactivity Index (Davis, 1983) and the Empathic Adjectives Task (Batson et al., 2005). Examples of *Contagion* measures include the Personal Distress subscale of the Interpersonal Reactivity Index (Davis, 1983), the Questionnaire Measure of Emotional Empathy (Mehrabian & Epstein, 1972), and the Emotion Contagion subscale of the Basic Empathy Scale (Jolliffe & Farrington, 2006). Studies that used measures of empathy that combined across these empathy categories, and therefore could not be classified appropriately, were excluded from this moderator analysis.¹

Burnout measure

We recorded whether the full version of the MBI was used, or an adapted, shortened, or translated version.

Population

We recorded basic participant demographic variables and created subgroups for participants' profession by grouping participants into healthcare-related and non-healthcare-related populations. The mean age of each sample and its gender distribution (% women) were recorded as continuous variables. We also recorded the country where the research was conducted. Four subgroups were created to compare studies conducted in North America, Europe, Asia, and elsewhere. If population information was missing from a manuscript, that study was excluded from the relevant population moderator analysis.

Manuscript

We coded the year the research was conducted, assuming a year publication lag if data collection year was not specified. We also coded for type of manuscript (i.e. published works such as journal articles and book chapters, or dissertations).

Coding for study quality

We conducted a risk of bias assessment tailored to correlational, self-report studies. Each study was evaluated across three domains: sampling (representativeness and size

of the sample), measurement (appropriateness and completeness of the empathy and burnout instruments), and reporting (clarity of study details, including sample size, reliabilities, and whether results were reported by empathy subtype and burnout subscale). Each domain was scored as 0 (low risk), 1 (moderate risk), or 2 (high risk). Scores were then summed to yield a total risk score ranging from 0 to 6. Based on these totals, 24 studies were categorized as low risk (0–1), 44 as moderate risk (2–3), and 11 as high risk (4–6) of bias. A full breakdown of study-level ratings is provided in Appendix I.

Statistical analyses

We conducted three random effects meta-analyses using Comprehensive Meta-Analysis V4 software (Borenstein et al., 2022). When deriving the overall relationship between empathy and burnout, we applied a conservative approach. When a study employed multiple measures of empathy, these were combined.² This is so that the analysis did not assign more weight to studies with multiple outcome measures, and did not overestimate the precision of the overall effect by assuming these measures were independent when they are likely to be correlated.

Publication bias was evaluated in Comprehensive Meta-Analysis V4 (Borenstein et al., 2022). We visually inspected funnel plots of effect sizes against their standard errors (see Appendix E), conducted Egger's regression test to statistically evaluate funnel plot asymmetry, and applied Duval and Tweedie's trim-and-fill procedure to adjust for potentially missing studies.

To determine whether different types of empathy had different relationships to burnout symptoms, we conducted subgroup moderator analyses. Critically, for moderator analyses, results were aggregated within each subgroup of the moderating variable. For example, a study that contained one measure classified as *Compassion* and two measures classified as *Cognitive* would be treated as having two outcomes: a composite measure of *Cognitive* empathy and a single measure of *Compassion*. The composite effect size is the mean effect size with a variance that considers the correlation among the different outcomes, calculated according to Borenstein et al., (2022). This allowed us to compare empathy subtypes while maintaining a conservative approach.

Analyses were conducted using a weighted random-effects model (DerSimonian & Laird, 1986). We converted correlations into Hedges's *g* for analysis. Hedges's *g* is a variation of Cohen's *d* that corrects for biases due to small sample sizes. Values of 0.20, 0.50 and 0.80 for Hedges's *g* are commonly considered to be indicative of small, medium and large effects (.10, .30, and .50 respectively for Pearson's *r*). Subgroup moderator analyses were conducted with mixed-effects models, continuous moderator analyses used meta-regression.

Heterogeneity tests were conducted using the *Q* statistic and *I*² statistic. The *Q* statistic provides a test of whether all studies in the analysis share a common effect size. The *I*² statistic indicates the proportion of the observed variance that reflects differences in true effect sizes rather than sampling error. We also report the prediction interval, which estimates the range in which the true effect of a future study is expected to fall, given the observed heterogeneity, with 95% probability. The prediction interval was calculated as $\pm 1.96T$ where *T* is the estimated standard deviation of true effect sizes.

Results

Meta-analysis 1: emotional exhaustion

Overall analysis

There were 76 samples that contained data on the relationship between empathy and emotional exhaustion (overall $N = 20,095$). Overall, emotional exhaustion was significantly negatively correlated with empathy, with a $g = -.10$ (95%CI $[-.16, -.03]$, $Z = -2.79$, $p = .005$, $k = 76$).³ Although statistically significant, this correlation is small and the dispersion of effects around this value is substantial and greater than would be expected by random variation, $Q(75) = 596.87$, $p < .001$. The I^2 statistic indicates that 87.43% of this variance reflects differences in true effect sizes, which may suggest the influence of potential moderators rather than simple sampling error. The prediction interval for g runs from -0.61 to 0.42 .

Evaluating potential publication bias

There was some evidence of publication bias. Egger's test for funnel plot asymmetry was non-significant, ($t = 0.87$, $p = .387$). However, studies finding a negative relationship between empathy and emotional exhaustion may have been slightly more likely to be published. We used the Trim-and-Fill method to make reasonable assumptions about possible missing data, imputing 10 studies (Duval & Tweedie, 2000). Recalculating the average relationship between empathy and emotional exhaustion using this method changed the estimated effect size from $-.10$ to $-.06$, 95%CI $[-.12, .02]$. See Appendix E for funnel plot.

Moderator analyses

Moderator analyses revealed that the relationship between empathy and emotional exhaustion depended upon the type of empathy, $Q(2) = 76.50$, $p < .001$. Participants with higher *Cognitive* empathy had lower emotional exhaustion, $g = -.13$, $p = .003$, $k = 46$. A similar, though non-significant, trend was observed for those with higher *Compassion* ($g = -.12$, $p = .073$, $k = 32$).⁴ However, participants with higher *Contagion* had significantly higher emotional exhaustion, $g = 0.45$, $p < .001$, $k = 24$. See Appendix F for forest plot.

The relationship between overall empathy and burnout was similar for those from healthcare professions compared to non-healthcare professions, $Q(1) = 1.65$, $p = .199$, and did not depend upon the specific job within healthcare, $Q(3) = 5.80$, $p = .122$. No other moderators were significant (Table 1).

Meta-analysis 2: depersonalization

Overall analysis

There were 71 samples that contained data on the relationship between empathy and depersonalization (overall $N = 18,949$). Overall, higher empathy was associated with significantly lower depersonalization, $g = -0.28$, (95%CI $[-.37, -.20]$, $Z = -6.67$, $p < .001$, $k = 71$),⁵ with a prediction interval of -0.93 to 0.36 . Again, the dispersion of effects around this value is greater than expected by random variation, ($Q(70) = 863.69$, $p < .001$; $I^2 = 91.90$).

Table 1. Summary statistics for moderator analyses for emotional exhaustion.

Categorical Moderators	k	<i>g</i>	95% CI	<i>Z</i>	<i>p</i>	Prediction Interval	<i>I</i> ²	<i>Q</i> _{within}
Empathy Type [<i>Q</i> (2) = 76.50, <i>p</i> < .001]	46	−0.13	[−0.21, −0.04]	−3.01	.003	[−0.61, 0.36]	82.57	258.17*
Cognitive	32	−0.12	−0.04]	−1.80	.073	[−0.78, 0.55]	87.51	248.13*
Compassion	24	0.45	[−0.24, 0.01]	8.14		[0.01, 0.88]	69.57	75.58*
Contagion			[0.34, 0.56]		<.001			
Profession [<i>Q</i> (1) = 1.65, <i>p</i> = .199]	63	−0.11	[−0.19, −0.03]	−2.71	.007	[−0.67, 0.45]	90.16	630.21*
Healthcare	13	−0.01	−0.03]	−0.11	.913	[−0.43, 0.41]	67.29	36.69*
Non-Healthcare			[−0.14, 0.12]					
Healthcare Profession [<i>Q</i> (3) = 5.80, <i>p</i> = .122]	16	−0.24	[−0.39, −0.10]	−3.27	.001	[−0.82, 0.33]	84.95	99.67*
Physicians/Residents	12	−0.12	−0.10]	−1.00	.319	[−0.99, 0.76]	89.14	101.31*
Nurses	7	0.03	[−0.35, 0.11]	0.34	.734	[−0.50, 0.56]	67.32	18.36*
Mental Health Professionals	16	−0.09	[−0.15, 0.21]	−1.45	.147	[−0.53, 0.36]	89.18	138.65*
Healthcare Students			[−0.20, 0.03]					
Measure of Burnout [<i>Q</i> (3) = 4.57, <i>p</i> = .206]	35	−0.18	[−0.28, −0.07]	−3.17	.002	[−0.75, 0.40]	80.46	174.00*
Original MBI	8	−0.09	−0.67]	−1.67	.095	[−0.35, 0.17]	50.99	14.28*
Adapted	11	−0.02	[−0.19, 0.02]	−0.21	.833	[−0.85, 0.80]	94.48	181.04*
Shortened Translation	22	−0.01	[−0.25, 0.20]	−0.11	.916	[−0.57, 0.56]	89.99	209.77*
Region [<i>Q</i> (3) = 1.46, <i>p</i> = .691]			[−0.13, 0.11]					
N. America	29	−0.14	[−0.26, −0.01]	−2.18	.029	[−0.76, 0.49]	87.70	227.58*
Europe	31	−0.05	−0.01]	−0.94	.349	[−0.62, 0.52]	84.17	189.57*
Asia	9	−0.14	[−0.17, 0.06]	−1.61	.107	[−0.70, 0.43]	90.60	85.08*
Other	7	−0.05	[−0.30, 0.03]	−0.56	.574	[−0.64, 0.54]	87.92	49.65*
Publication [<i>Q</i> (1) = 0.01, <i>p</i> = .934]			[−0.23, 0.13]					
Published	59	−0.10	[−0.17, −0.02]	−2.47	.013	[−0.63, 0.44]	90.28	596.62*
Dissertation	17	−0.09	[−0.28, 0.10]	−0.91	.363	[−0.85, 0.68]	81.83	88.05*
Continuous Moderators	k	Coefficient	95% CI	<i>Z</i>	<i>Q</i>	<i>p</i>	<i>I</i>²	<i>R</i>² Analog
Mean Age of Sample	47	<−.01	[−.01, .01]	−0.41	0.17	.219	84.96	<.01
Gender Distribution of Sample (% Women)	72	<−.01	[−.01, .01]	−0.09	0.01	.927	88.76	.04
Date of Publication	76	<−.01	[−.01, .01]	−1.23	1.51	.219	89.17	<.01

**p* < .05.

Evaluating potential publication bias

We found little evidence for publication bias. Egger's test for funnel plot asymmetry was non-significant, ($t = 0.48$, $p = .633$). Studies finding a negative relationship between empathy and depersonalization may have been slightly more likely to be published. The Trim-and-Fill method imputed six studies (Duval & Tweedie, 2000) and changed the estimated effect size from $-.28$ to $-.23$, 95%CI $[-.31, -.14]$. See Appendix E for funnel plot.

Moderator analyses

Moderator analyses revealed that the relationship between empathy and depersonalization depended upon the empathy type, $Q(2) = 180.13$, $p < .001$. Participants with higher

Table 2. Summary statistics for moderator analyses for depersonalization.

Categorical Moderators	k	g	95% CI	Z	p	Prediction Interval	I ²	Q _{within}
Empathy Type [Q(2) = 180.13, <i>p</i> < .001]	47	−0.33	[−0.45, −0.21]	−5.40		[−1.11, 0.45]	91.98	573.48*
Cognitive	30	−0.44	−0.21]	−8.49	<.001	[−0.90, 0.03]	77.31	127.80*
Compassion	23	0.29	[−0.54, −0.34]	8.90	<.001	[0.14, 0.43]	17.51	26.67*
Contagion			[0.22, 0.35]		<.001			
Profession [Q(1) = 1.10, <i>p</i> = .295]	65	−0.28	[−0.37, −0.19]	−6.12		[−0.91, 0.39]	92.51	854.64*
Healthcare	6	−0.35	−0.19]	−7.35	<.001	Tau = 0	0.00	4.97
Non-Healthcare			[−0.44, −0.25]		<.001			
Healthcare Profession [Q(3) = 6.94, <i>p</i> = .074]	17	−0.48	[−0.63, −0.32]	−6.10		[−1.10, 0.14]	86.03	114.56*
Physicians/Residents	11	−0.31	−0.32]	−2.03	<.001	[−1.43, 0.82]	92.91	141.09*
Nurses	8	−0.13	[−0.60, −0.01]	−1.16	.043	[−0.84, 0.58]	80.46	35.83*
Mental Health Professionals	17	−0.32	−0.01]	−6.15	.248	[−0.69, 0.06]	84.97	106.48*
Healthcare Students			[−0.35, 0.09]		<.001			
Measure of Burnout [Q(3) = 1.75, <i>p</i> = .627]	37	−0.26	[−0.41, −0.11]	−2.76	.001	[−1.15, 0.62]	90.66	385.47*
Original MBI	7	−0.22	−0.11]	−3.43	.006	[−0.65, 0.22]	73.58	22.71*
Adapted	7	−0.25	[−0.37, −0.06]	−2.04	.041	[−1.06, 0.56]	92.07	75.69*
Shortened	20	−0.36	−0.06]	−4.54		[−1.07, 0.35]	93.57	295.29*
Translation			[−0.49, −0.01]		<.001			
Region [Q(3) = 0.99, <i>p</i> = .803]	30	−0.32	[−0.44, −0.19]	−4.95		[−0.96, 0.33]	87.91	239.88*
N. America	27	−0.25	−0.19]	−3.78	<.001	[−0.90, 0.40]	87.58	209.27*
Europe	8	−0.22	[−0.38, −0.12]	−1.22		[−1.50, 1.06]	97.44	273.43*
Asia	6	−0.35	−0.12]	−3.10	<.001	[−1.11, 0.41]	90.79	54.30*
Other			[−0.57, 0.13]		.221			
Publication [Q(1) = 0.05, <i>p</i> = .827]	54	−0.29	[−0.38, −0.20]	−6.14		[−0.93, 0.35]	92.86	742.53*
Published	17	−0.26	−0.20]	−2.37	<.001	[−1.18, 0.65]	86.66	119.89*
Dissertation			[−0.48, −0.05]		.018			
Continuous Moderators	k	Coefficient	95% CI	Z	Q	p	I²	R² Analog
Mean Age of Sample	44	.01	[−.01, .02]	0.81	0.65	.420	91.90	<.01
Gender Distribution of Sample (% Women)	68	<.01	[<−.01, .01]	0.98	0.96	.328	91.81	.01
Date of Publication	71	<−.01	[−.01, .01]	−0.72	0.52	.470	91.90	<.01

**p* < .05.

Cognitive empathy ($g = -0.33$, $p < .001$, $k = 47$) and higher Compassion ($g = -0.44$, $p < .001$, $k = 30$),⁶ scored significantly lower in depersonalization. However, participants with higher Contagion scored significantly higher in depersonalization, $g = 0.29$, $p < .001$, $k = 23$. See Appendix F for forest plot.

Again, participants' profession (healthcare versus non-healthcare) was not a significant moderator, $Q(1) = 1.10$, $p = .295$, nor was the specific job within healthcare, $Q(3) = 6.94$, $p = .074$. No other moderators were significant (Table 2).

Meta-analysis 3: feelings of personal accomplishment

Overall analysis

There were 69 independent samples that contained data on the relationship between empathy and personal accomplishment (overall $N = 16,797$). Note that feelings of accomplishment were assessed in a positive direction, such that higher burnout would be indicated by lower scores on this symptom, unlike on emotional exhaustion and depersonalization subscales.

Overall, higher empathy was associated with significantly higher feelings of accomplishment, $g = 0.37$, (95%CI [.28, .45], $Z = 8.07$, $p < .001$, $k = 69$),⁷ with a prediction interval of -0.32 to 1.05 . There was again significant dispersion of effects ($Q(68) = 827.33$, $p < .001$; $I^2 = 91.78$).

Evaluating potential publication bias

We found strong evidence for publication bias. Egger's test for funnel plot asymmetry was significant ($t = 2.87$, $p = .003$). Studies finding a positive relationship between empathy and personal accomplishment were more likely to be published. The Trim-and-Fill method imputed 20 studies (Duval & Tweedie, 2000) and changed the estimated effect size from 0.37 to 0.16 , 95%CI [.07, .25]. See Appendix E for funnel plot.

Moderator analyses

The relationship between empathy and personal accomplishment depended upon the empathy type, $Q(2) = 148.36$, $p < .001$. Participants with higher *Cognitive* empathy, $g = 0.52$, $p < .001$, $k = 44$, and higher *Compassion* $g = 0.41$, $p < .001$, $k = 28$,⁸ scored significantly higher in personal accomplishment. However, participants with higher *Contagion* scored significantly lower in personal accomplishment, $g = -.46$, $p < .001$, $k = 22$. See Appendix F for forest plot.

As before, whether participants were in a healthcare profession or not did not moderate the relationship, $Q(1) = 1.06$, $p = .304$, nor did the specific job within healthcare, $Q(3) = 1.06$, $p = .304$. No other moderators were significant (Table 3).

Discussion

This series of meta-analyses aimed to help clarify ongoing debates regarding the relationship between empathy and burnout – constructs of profound significance within many professions. Across 79 samples that included measures of empathy and measured at least one symptom on the MBI, our results confirm that *Cognitive* empathy and *Compassion* are associated with lower burnout symptoms, whereas *Contagion* is associated with higher burnout. This pattern of results is strikingly consistent for all three burnout symptoms: emotional exhaustion, depersonalization, and reduced personal accomplishment. Empathy was the only categorical predictor that significantly moderated the relationship with burnout, highlighting its unique role in shaping this association. These results help explain why some prior research (e.g. Cairns et al., 2024) reported null findings. By collapsing across distinct subtypes of emotional empathy, which relate to burnout in opposite directions, those studies may have obscured meaningful effects.

Table 3. Summary statistics for moderator analyses for personal accomplishment.

Categorical Moderators	k	g	95% CI	Z	p	Prediction Interval	I ²	Q _{within}
Empathy Type [$Q(2) = 148.36, p < .001$]	44	0.52	[0.38, 0.65]	7.46	<.001	[-0.35, 1.38]	93.01	614.84*
	28	0.41	[0.33, 0.48]	10.75	<.001	[0.14, 0.67]	47.33	51.27*
Cognitive	22	-0.46	[-0.59, -0.33]	-6.99	<.001	[-0.99, 0.08]	77.95	95.23*
Compassion								
Contagion								
Profession [$Q(1) = 1.06, p = .304$]	61	0.37	[0.28, 0.46]	7.80	<.001	[-0.31, 1.05]	92.21	769.74*
Healthcare	8	0.34	[-0.02, 0.70]	1.83	.068	[-0.90, 1.57]	87.84	57.57*
Non-Healthcare								
Healthcare Profession [$Q(3) = 7.00, p = .072$]	15	0.62	[0.37, 0.86]	4.45	<.001	[-0.39, 1.62]	90.87	153.32*
	10	0.42	[0.16, 0.68]	3.19	.001	[-0.53, 1.36]	90.52	94.93*
Physicians/Residents	7	0.23	[-0.02, 0.49]	1.81	.070	[-0.60, 1.07]	83.40	36.14*
Nurses	17	0.28	[0.17, 0.40]	4.79	<.001	[-0.17, 0.73]	88.85	143.51*
Mental Health Professionals								
Healthcare Students								
Measure of Burnout [$Q(3) = 1.77, p = .621$]	35	0.40	[0.24, 0.56]	4.78	<.001	[-0.54, 1.34]	91.45	397.48*
	7	0.27	[0.12, 0.42]	3.60	<.001011	[-0.14, 0.68]	70.44	20.29*
Original MBI	7	0.29	[0.06, 0.51]	2.53	<.001	[-0.42, 0.99]	80.00	30.00*
Adapted	20	0.38	[0.21, 0.55]	4.44		[-0.41, 1.17]	94.76	362.47*
Shortened								
Translation								
Region [$Q(3) = 0.54, p = .911$]	27	0.39	[0.25, 0.52]	5.55	<.001	[-0.28, 1.06]	84.83	171.38*
N. America	29	0.33	[0.18, 0.47]	4.41	<.001	[-0.43, 1.08]	90.16	284.41*
Europe	7	0.38	[<-0.01, 0.77]	1.95	.052	[-1.02, 1.78]	97.85	279.43*
Asia	6	0.42	[0.17, 0.66]	3.34	.001	[-0.43, 1.26]	92.40	65.80*
Other								
Publication [$Q(1) = 0.46, p = .499$]	52	0.39	[0.29, 0.49]	7.58	<.001	[-0.29, 1.07]	92.86	714.43*
Published	17	0.30	[0.09, 0.52]	2.76	.006	[-0.59, 1.20]	85.83	112.89*
Dissertation								
Continuous Moderators	k	Coefficient	95% CI	Z	Q	p	I²	R² Analog
Mean Age of Sample	42	<.01	[-.01, .02]	0.21	0.04	.835	92.29	<.01
Gender Distribution of Sample (% Women)	66	<-.01	[-.01, <.01]	-0.81	0.01	.418	91.97	<.01
Date of Publication	69	<.01	[-.01, .01]	0.12	0.01	.908	91.78	<.01

* $p < .05$.

Our results are consistent with existing theoretical explanations of the relationship between burnout and empathy, such as the Job Demands-Resources model (JD-R, Demerouti et al., 2001) and the Caregiving Model of Stress Regulation (CMSR, Konrath & Brown, 2011). These models are particularly applicable in workplace settings where emotional demands are high and resources are stretched thin. The JD-R model predicts that individual traits such as empathy should predict greater burnout to the extent that they are emotionally exhausting but predict less burnout to the extent that they are rewarding. The CMSR theorizes that other-oriented types of empathy such as *Cognitive* empathy and *Compassion* should increase one's tendency to engage in prosocial helping behavior, which in turn should reduce stress and induce feelings of reward – factors that the JD-R model considers resources. In addition, the CMSR theorizes that self-oriented types of empathy such as *Contagion* should not lead to more prosocial and altruistic helping, and thus not provide the same resources of stress reduction or rewarding feelings. Thus, our results imply that *Contagion* could be considered an energy depleting demand that places one at risk for experiencing burnout, as per the JD-R model.

This later result, for *Contagion*, provides some support for the idea that being empathic, and caring for others in distress, has some risk associated with it. This aligns with previous theorizing that compassion fatigue/secondary traumatic stress are forms of ‘empathy-based stress’ (Rauvola et al., 2019, p. 299) and partially validates our opening quote. However, critically, it highlights that the risk is constrained to mirroring the distress and negative emotions of others. Therefore, we must be careful not to suggest that all empathy is risky, especially given that having *Compassion* and *Cognitive* empathy appear protective against burnout.

Despite general consistencies across the three dimensions of burnout, some nuanced patterns emerge in the strength of the associations with each burnout symptom that warrant further discussion. *Cognitive* empathy and *Compassion* appear to offer strong protection against *Depersonalization*, and reduced feelings of *Personal Accomplishment* but are considerably less protective against *Emotional Exhaustion*, with effect sizes roughly one third as large as for the other two burnout symptoms. In contrast, *Contagion* functions as a robust risk factor across all three burnout symptoms, with effect sizes broadly comparable in magnitude to the strongest protective effects of *Cognitive* Empathy and *Compassion*.

Strengths and limitations

The results of the current meta-analyses expand upon recent reviews on the topic of empathy and burnout among healthcare professionals, which were unable to account for the heterogeneity in this relationship (Cairns et al., 2024; Delgado et al., 2023; Wilkinson et al., 2017; Williams et al., 2017). Our careful search and screening process allowed us to have enough studies across a broad range of populations to conduct moderator analyses across types of empathy, though we note that studies published after March 2022 are not included and may further inform these relationships. As a result, we were able to potentially illuminate why the literature on this topic to date has been inconsistent.

At the same time, it is important to acknowledge the considerable heterogeneity still observed in these meta-analyses, even after distinguishing between different empathy types. In particular, the wide prediction intervals that span zero for several empathy – burnout associations indicate that in some populations or settings, these relationships may be weaker or even absent (see Tables 1-3). Therefore, we caution against over-generalizing the findings. In contrast, the prediction intervals for emotional exhaustion and contagion, depersonalization and contagion, and compassion and personal accomplishment do not cross zero, suggesting greater confidence in these associations across contexts. Thus, while empathy appears to play a meaningful role in predicting burnout symptoms, future research should aim to identify the contextual and methodological factors underlying the remaining heterogeneity to refine our understanding of when and for whom empathy protects against burnout, and when it does not.

Although we identified an important moderator, because our meta-analyses relied on correlational data only, we are limited in our interpretation of the role empathy plays in the relationship with burnout. This means that the meta-analysis cannot speak to the direction of the potential causal relationship. Specifically, we cannot determine whether different types of empathy cause changes in burnout symptoms, whether burnout

symptoms themselves affect empathy, or whether third variables such as personality or personal circumstances may help to explain the empathy-burnout relationships. It is possible, and even likely, that some of the effects we observed could also reflect indirect pathways through related but unmeasured constructs, such as compassion fatigue or secondary traumatic stress (Figley, 1995, 2002; Rauvola et al., 2019). Another potential mediating factor in our empathy-burnout relationship could be anxiety, as personal distress has been found to correlate strongly with anxiety (Israelashvili et al., 2024) and thus may help explain why greater emotion contagion is associated with greater burnout. Overall, despite some longitudinal and experimental research in this area (e.g. Altmann & Roth, 2021; Han & Kim, 2020; Matos et al., 2024; von Harscher et al., 2018), this area of research remains murky despite the addition of our meta-analysis. Therefore, we recommend future research to explicitly test causal mechanisms and potential mediators.

Additionally, to test how the relationship between empathy and burnout differed depending upon empathy type, we needed to meaningfully categorize empathy measures from the 79 samples we analyzed. Although we focus on distinctions between three categories of empathy (*Cognitive*, *Compassion*, and *Contagion*) there is a large heterogeneity in the way empathy is operationalized and measured by researchers (e.g. Cuff et al., 2016; Davis, 2018; Hall & Schwartz, 2019; Martingano et al., 2025; Wispé, 1986). Thus, there could be meaningful differences within each of the empathy categories that we analyzed that may be differentially associated with burnout. For instance, while we found that *Contagion* consistently predicted greater burnout symptoms, it may be that contagion for others' *negative* emotions and experiences was primarily driving this relationship. Indeed, one study demonstrates that contagion for positive emotions may actually be a buffer against burnout (Stosic, Blanch-Hartigan, et al., 2022).

We found some evidence of publication bias among the studies included in our meta-analyses. For Emotional Exhaustion and Depersonalization, although Egger's tests were non-significant, the Trim-and-Fill procedure imputed several studies (10 and 6, respectively), which adjusted effect sizes toward zero. More dramatically, for Personal Accomplishment, Egger's test was significant, and the Trim-and-Fill procedure imputed 20 studies (almost a third of included studies), reducing the estimated effect size considerably. Taken together, these results suggest that studies reporting stronger associations may have been more likely to appear in the published record, especially for Personal Accomplishment. We therefore caution that publication bias represents a limitation of the present work. At the same time, the moderating role of empathy type, which was robust across analyses, is unlikely to be explained away by publication bias in the overall effects.

Finally, it is important to acknowledge that these analyses only address one individual-level correlate of burnout: empathy. Research finds organizational-level correlates of burnout, such as workplace and cultural variables, are more pertinent potential contributors to burnout risk (Shoman et al., 2021). Future research would benefit from considering how individual and interpersonal factors may interact with organizational contexts to predict burnout.

Future directions

Although the results included in this meta-analysis are correlational and do not allow for causal inference, identifying which types of empathy show the strongest associations with burnout may help to identify potential targets for future intervention efforts. For example, if certain empathic processes consistently co-occur with higher burnout, these processes could be prioritized in experimental studies to test whether modifying them reduces burnout risk. Such insights would be particularly relevant for designing empathy-training programs for medical professionals: interventions could be tailored to enhance Cognition and Compassion, which are protective, while avoiding increases in emotional Contagion, which is a risk factor for burnout.

There are tentative reasons to be hopeful that such interventions might be effective at reducing burnout, as previous longitudinal research has found that *Compassion* leads to lower burnout (von Harscher et al., 2018) and experimental work has shown that *Compassion* interventions can, at least temporarily, relieve the symptoms of burnout (Matos et al., 2024). However, this matter is far from settled, with other longitudinal research finding no associations between burnout and empathy (Altmann & Roth, 2021), and potentially ineffective intervention attempts remaining unpublished. Nevertheless, we see this as an area ripe for exploration, as empathy interventions are already commonplace (Batt-Rawden et al., 2013; Brunero et al., 2010; Fragkos & Crampton, 2020; Wu et al., 2024), and burnout reduction could be explored as a potential positive side-effect.

On average, empathy interventions cause a medium-sized increase in empathy ($g = .63$), being particularly effective for healthcare professionals and college students (see Teding van Berkhout & Malouff, 2016 for meta-analysis). Interventions can be as simple as encouraging others to take the perspective of others (Batson, Early, et al., 1997), to role play and simulations (e.g. virtual reality, Martingano et al., 2021). Such interventions could be integrated into traditional workplace trainings. However, we acknowledge that burnout has important structural causes, and adding empathy training without considering other workplace issues related to burnout (e.g. salary, managerial support) would be incomplete. Outside of workplace interventions, there are many other experiences that have been shown to increase *Compassion* and *Cognitive* empathy such as engagement with literature (Kidd & Castano, 2013) and theatre (Rathje et al., 2021). Encouraging at-risk workers to embrace such experience also aligns well with other theories of burnout reduction such as self-care as a mechanism to reduce compassion fatigue (Sorenson et al., 2016). Importantly, we conceptualize self-care not as escaping from the world but interacting with it in a way that restores compassion.

Targeted interventions do not need to stop at increasing *Compassion* and *Cognitive* empathy but can also attempt to reduce *Contagion*. Particularly as neither *Cognitive* empathy nor *Compassion* appear highly protective for emotional exhaustion in particular, whereas *Contagion* is a fairly strong risk factor. Here, regulation strategies could be taught to allow people to intervene along multiple stages of the emotional process (Webb et al., 2012). For example, modifying the distressing situation, distracting their attention, reappraising the situation or suppressing their distress. Alternatively, assessing contagion could also be a useful marker for employees who may be predisposed to burnout.

Conclusion

This meta-analysis helps to clarify and correct an ongoing myth that if someone has ‘too much empathy . . . they get burned out’ (Tremonti, 2017), as stated in the opening quote of this paper. Researchers need to avoid making these kinds of global statements about the nature of the relationship between empathy and burnout, but instead, use precise terms to describe specific operationalizations of empathy. As the present meta-analyses illuminate, it is more accurate to say that people high in *Contagion* are more likely to burn out, while people high in *Cognitive* empathy and *Compassion* are less likely to burn out.

Notes

1. Articles were also coded to indicate whether they measured state or trait empathy. The vast majority of articles continued trait measures and so a moderator analysis would be underpowered and so was not conducted. However, we report the relevant analyses without these state measures as footnotes, to allow readers to examine their contribution to the effect.
2. Combined into a single a single weighted average effect size, adjusting the variance to account for correlations among the measures (assuming $r = .50$ when not reported; Borenstein et al., 2009)
3. Excluding state measures of empathy, $g = -.09$ (95%CI $[-.16, -.03]$, $Z = -2.70$, $p = .007$, $k = 75$).
4. Excluding state measures of compassion, $g = -.11$, $p = .098$, $k = 31$).
5. Excluding state measures of empathy, $g = -.28$ (95%CI $[-.36, -.20]$, $Z = -6.54$, $p < .001$, $k = 70$).
6. Excluding state measures of compassion, $g = -.43$, $p < .001$, $k = 29$).
7. Excluding state measures of empathy, $g = .36$ (95%CI $[.27, .45]$, $Z = 7.93$, $p < .001$, $k = 68$).
8. Excluding state measures of compassion, $g = .40$, $p < .001$, $k = 27$).

Acknowledgments

The third author received funding from the Mind & Life Institute while writing this manuscript.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Funding

The work was supported by the Mind & Life Institute.

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Data availability materials

All study information, data, research materials (including our coding scheme), and supplementary materials are available via the Open Science Framework: https://osf.io/ebqr4/?view_only=c54375760f264369af99df6e1d72b972.

This review project was not preregistered. <https://psycnet.apa.org/record/1992-21345-001>

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*Manuscripts tagged with * were included the meta-analyses*

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