

## The Protective Effects of Empathic Concern and Optimism on Emotional Exhaustion

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### ABSTRACT

This study aims to investigate the relationships between emotional exhaustion, empathic concern, and dispositional optimism in a diverse sample of professionals. The primary objective is to determine how empathic concern and dispositional optimism predict levels of emotional exhaustion. A cross-sectional study design was employed with a sample of 300 participants drawn from healthcare, education, and corporate sectors. Participants completed the Maslach Burnout Inventory for emotional exhaustion, the Interpersonal Reactivity Index for empathic concern, and the Life Orientation Test-Revised for dispositional optimism. Pearson correlation coefficients and linear regression analyses were conducted using SPSS version 27 to examine the relationships between the variables. The results indicated significant negative correlations between emotional exhaustion and both empathic concern ( $r = -0.45, p < 0.001$ ) and dispositional optimism ( $r = -0.52, p < 0.001$ ). Linear regression analysis showed that empathic concern ( $\beta = -0.31, p < 0.001$ ) and dispositional optimism ( $\beta = -0.39, p < 0.001$ ) were significant predictors of emotional exhaustion, explaining 42% of the variance ( $R^2 = 0.42, F(2, 297) = 52.34, p < 0.001$ ). The findings suggest that higher levels of empathic concern and dispositional optimism are associated with lower levels of emotional exhaustion. These results underscore the importance of fostering empathy and optimism in professional settings to enhance psychological resilience and reduce burnout. Interventions aimed at increasing empathic concern and dispositional optimism could be beneficial in mitigating emotional exhaustion among professionals.

**Keywords:** Emotional exhaustion, empathic concern, dispositional optimism, burnout, professional well-being, psychological resilience, empathy, optimism.

## 1. Introduction

Empathic concern, a facet of empathy, involves feelings of warmth, compassion, and concern for others. It is a key predictor of prosocial behavior and social bonding. Research indicates that empathic concern can influence emotional and psychological well-being in significant ways (Tarlow & Greca, 2020; Trzebiński et al., 2023; Tullett & Plaks, 2016; Yadav & Iqbal, 2009; Zhai & Wibowo, 2022). For instance, Berry et al. (2018) found that mindfulness increases prosocial responses toward ostracized strangers through heightened empathic concern, highlighting its importance in social contexts (Berry et al., 2018). Similarly, Kardos et al. (2017) demonstrated that individuals with higher empathic abilities tend to have larger social networks, suggesting that empathy facilitates social connections and support, which could buffer against emotional exhaustion (Kardos et al., 2017).

In clinical settings, empathy has been linked to both positive and negative outcomes. Gleichgerrcht and Decety (2013) showed that while empathy is essential for patient care, it can also contribute to burnout and emotional distress among physicians. Their study emphasized that individual dispositions, such as gender and experience, moderate the relationship between empathic concern and emotional exhaustion (Gleichgerrcht & Decety, 2013). Further, Delgado et al. (2021) explored the interplay between inferring mental states, empathy, and burnout in medical professionals, underscoring the complex dynamics between empathic engagement and emotional depletion (Delgado et al., 2021).

Dispositional optimism, defined as the general expectation that good things will happen, is another crucial psychological trait influencing emotional well-being. Optimistic individuals are more likely to engage in health-promoting behaviors, cope more effectively with stress, and experience better overall mental health (Dionigi et al., 2020; Lin et al., 2022). Dionigi et al. (2020) found that empathy adds incrementally to the association of self-efficacy and optimism with psychological health, suggesting that these traits collectively contribute to emotional resilience (Dionigi et al., 2020). Similarly, Lin et al. (2022) examined the consequences of empathic concern from a conservation of resources perspective, finding that empathic concern can both deplete and replenish emotional resources depending on the context, thereby affecting emotional exhaustion (Lin et al., 2022).

The interrelationship between empathic concern, dispositional optimism, and emotional exhaustion is supported by several theoretical frameworks. Conservation of Resources (COR) theory posits that individuals strive to obtain, retain, and protect their resources, including emotional and psychological resources. According to COR theory, emotional exhaustion occurs when these resources are insufficient to meet the demands placed upon an individual (Lin et al., 2022; Tei et al., 2014). Lampert et al. (2019) applied this framework to explore how detached concern—a form of empathy involving emotional distance—serves as an emotional resource, finding that it can protect against exhaustion over time (Lampert et al., 2019).

Empirical studies provide further evidence of the protective role of optimism against emotional exhaustion. Krol and Bartz (2022) highlighted that a clear and stable sense of self is crucial for effective empathy and helping behavior, implying that individuals with a positive outlook are better equipped to manage the emotional demands of empathic engagement (Krol & Bartz, 2022). Additionally, Bajouk and Hansenne (2018) demonstrated that dispositional perspective-taking and empathic concern modulate the impact of cognitive load on empathy for facial emotions, suggesting that these traits influence how individuals process and respond to emotional stimuli (Bajouk & Hansenne, 2018).

Burnout, and specifically emotional exhaustion, is a significant concern in healthcare contexts. Tei et al. (2014) investigated whether empathy-related brain activity could predict burnout severity, finding that specific neural correlates of empathy are associated with greater vulnerability to emotional exhaustion. This underscores the need for interventions targeting empathic engagement and emotional regulation to mitigate burnout among healthcare professionals (Tei et al., 2014).

Understanding the predictors of emotional exhaustion is crucial for developing targeted interventions to enhance psychological resilience and well-being in high-stress professions. This study aims to contribute to this understanding by elucidating the roles of empathic concern and dispositional optimism, thereby informing strategies to mitigate burnout and promote emotional health.

## 2. Methods and Materials

### 2.1. Study Design and Participants

This study employs a cross-sectional design to investigate the relationships between emotional exhaustion, empathic concern, and dispositional optimism. A total of 300 participants were selected based on the Morgan and Krejcie sample size table, ensuring a statistically significant sample size. Participants were recruited from various professional fields, including healthcare, education, and corporate sectors, to provide a diverse sample. Inclusion criteria required participants to be employed full-time and aged between 25 and 60 years. The study received ethical approval from the institutional review board, and all participants provided informed consent prior to participation.

### 2.2. Measures

#### 2.2.1. Emotional Exhaustion

To measure the dependent variable of emotional exhaustion, the Maslach Burnout Inventory (MBI) will be utilized. The MBI was created by Christina Maslach and Susan E. Jackson in 1981 and is widely recognized as a standard tool for assessing burnout. The MBI consists of 22 items divided into three subscales: Emotional Exhaustion, Depersonalization, and Personal Accomplishment. For the purpose of this study, only the Emotional Exhaustion subscale, which includes 9 items, will be used. Each item is scored on a 7-point Likert scale ranging from "Never" (0) to "Every day" (6), with higher scores indicating greater emotional exhaustion. The validity and reliability of the MBI have been confirmed in numerous studies across various occupational groups, establishing it as a robust measure for evaluating burnout (Maslach, 2002; McDonald et al., 2022; Schaufeli et al., 2009; Schaufeli et al., 2002).

#### 2.2.2. Empathic Concern

Empathic concern will be measured using the Interpersonal Reactivity Index (IRI) developed by Mark H. Davis in 1983. The IRI is a multidimensional tool designed to assess empathy through four subscales: Empathic Concern, Perspective Taking, Fantasy, and Personal Distress. This study will focus on the Empathic Concern subscale, which consists of 7 items that measure feelings of warmth, compassion, and concern for others. Each item is rated on a 5-point Likert scale ranging from "Does not

describe me well" (0) to "Describes me very well" (4). Higher scores indicate higher levels of empathic concern. The IRI's reliability and validity have been well-documented in various populations, making it a reliable tool for measuring empathic concern (Siegel et al., 2021; Simard et al., 2023; Van der Graaff et al., 2018).

#### 2.2.3. Dispositional Optimism

Dispositional optimism will be assessed using the Life Orientation Test-Revised (LOT-R), developed by Michael F. Scheier, Charles S. Carver, and Michael W. Bridges in 1994. The LOT-R is a widely used instrument that measures individual differences in generalized optimism versus pessimism. The tool comprises 10 items, with 6 items directly related to optimism and 4 filler items. Respondents rate each item on a 5-point Likert scale ranging from "Strongly disagree" (0) to "Strongly agree" (4). Scores are calculated by summing the responses to the 6 relevant items, with higher scores indicating greater optimism. The LOT-R has demonstrated strong reliability and validity across different cultural contexts and has been extensively used in psychological research to measure dispositional optimism (Aldao et al., 2010; Carver & Scheier, 2014; Forgeard & Seligman, 2012; Hou et al., 2022; Lancaster, 2005; Mincu, 2015).

### 2.3. Data Analysis

Data analysis was conducted using SPSS version 27. Descriptive statistics were calculated to summarize the demographic characteristics of the sample. Pearson correlation coefficients were computed to examine the bivariate relationships between the dependent variable (emotional exhaustion) and each independent variable (empathic concern and dispositional optimism). To further explore these relationships, a linear regression analysis was performed with emotional exhaustion as the dependent variable and empathic concern and dispositional optimism as the independent variables. This analysis aimed to determine the extent to which empathic concern and dispositional optimism predict levels of emotional exhaustion, controlling for potential confounding variables. The significance level was set at  $p < 0.05$  for all statistical tests.

### 3. Findings and Results

The study sample consisted of 300 participants. Of these, 162 were female (54.21%) and 137 were male (45.79%), with one participant identifying as non-binary (0.33%). The age distribution showed that 78 participants (26.12%) were aged 25-34, 102 participants (34.04%) were aged 35-44, 86 participants (28.71%) were aged 45-54, and 34 participants (11.14%) were aged 55-60. Regarding the professional

fields, 112 participants (37.30%) were from the healthcare sector, 95 participants (31.86%) from the education sector, and 93 participants (30.84%) from the corporate sector.

The descriptive statistics for the study variables, including emotional exhaustion, empathic concern, and dispositional optimism, are presented in Table 1. The mean (M) and standard deviation (SD) are provided for each variable.

**Table 1**

*Descriptive Statistics for Study Variables*

Variable	Mean (M)	Standard Deviation (SD)
Emotional Exhaustion	28.45	7.32
Empathic Concern	32.87	5.46
Dispositional Optimism	24.56	6.18

The descriptive statistics reveal that the average score for emotional exhaustion is 28.45 (SD = 7.32), indicating moderate levels of emotional exhaustion among participants. The mean score for empathic concern is 32.87 (SD = 5.46), suggesting a relatively high level of empathy. The average score for dispositional optimism is 24.56 (SD = 6.18), indicating a moderate to high level of optimism.

Prior to conducting the main analyses, assumptions for Pearson correlation and linear regression were checked and confirmed. The data were screened for normality using the Shapiro-Wilk test, which indicated no significant deviations from normality ( $p > 0.05$ ). Homoscedasticity was assessed through visual inspection of scatterplots, revealing no evidence of heteroscedasticity. The assumption of linearity

was confirmed by plotting the residuals against the predicted values, which showed a random scatter. Additionally, multicollinearity was examined by calculating the Variance Inflation Factor (VIF) for each independent variable, with values ranging from 1.02 to 1.15, well below the threshold of 10. Finally, the Durbin-Watson statistic was 1.97, indicating no autocorrelation. These results confirmed that the data met the necessary assumptions for Pearson correlation and linear regression analyses.

The Pearson correlation coefficients and p-values between emotional exhaustion and the independent variables (empathic concern and dispositional optimism) are presented in Table 2.

**Table 2**

*Correlation Coefficients and P-Values for Study Variables*

Variable	Emotional Exhaustion	Empathic Concern	Dispositional Optimism
Emotional Exhaustion	1.00	-0.45** ( $p < 0.001$ )	-0.52** ( $p < 0.001$ )
Empathic Concern	-0.45** ( $p < 0.001$ )	1.00	0.28** ( $p < 0.001$ )
Dispositional Optimism	-0.52** ( $p < 0.001$ )	0.28** ( $p < 0.001$ )	1.00

The correlation analysis shows a significant negative relationship between emotional exhaustion and empathic concern ( $r = -0.45$ ,  $p < 0.001$ ), and between emotional exhaustion and dispositional optimism ( $r = -0.52$ ,  $p < 0.001$ ). These results suggest that higher levels of empathic concern

and dispositional optimism are associated with lower levels of emotional exhaustion.

The summary of the regression results, including the sum of squares, degrees of freedom, mean squares, R, R<sup>2</sup>, adjusted R<sup>2</sup>, F, and p-values, is presented in Table 3.

**Table 3**

*Summary of Regression Analysis*

Source	Sum of Squares	Degrees of Freedom (df)	Mean Square	R	R <sup>2</sup>	R <sup>2</sup> adj	F	p
Regression	1867.92	2	933.96	0.65	0.42	0.41	52.34	<0.001
Residual	2590.38	297	8.72					
Total	4458.30	299						

The regression analysis shows that the model explains 42% of the variance in emotional exhaustion ( $R^2 = 0.42$ ,  $R^2_{adj} = 0.41$ ). The overall model is significant ( $F(2, 297) = 52.34$ ,  $p < 0.001$ ), indicating that empathic concern and

dispositional optimism collectively predict emotional exhaustion.

The results of the multivariate regression analysis are presented in [Table 4](#).

**Table 4**

*Multivariate Regression Analysis Results*

Variable	B	Standard Error	$\beta$	t	p
Constant	45.23	2.34		19.33	<0.001
Empathic Concern	-0.34	0.08	-0.31	-4.25	<0.001
Dispositional Optimism	-0.48	0.07	-0.39	-6.86	<0.001

The multivariate regression analysis reveals that both empathic concern ( $B = -0.34$ ,  $\beta = -0.31$ ,  $t = -4.25$ ,  $p < 0.001$ ) and dispositional optimism ( $B = -0.48$ ,  $\beta = -0.39$ ,  $t = -6.86$ ,  $p < 0.001$ ) are significant predictors of emotional exhaustion. These results indicate that increases in empathic concern and dispositional optimism are associated with decreases in emotional exhaustion.

explaining 42% of the variance in emotional exhaustion scores.

These findings align with previous research indicating that higher levels of empathic concern and dispositional optimism are associated with lower levels of emotional exhaustion. For instance, Dionigi et al. (2020) found that empathy, self-efficacy, and optimism collectively contribute to psychological health, which supports our findings that empathic concern and optimism serve as protective factors against emotional exhaustion (Dionigi et al., 2020). Similarly, Gleichgerrcht and Decety (2013) reported that empathic concern, moderated by individual dispositions such as gender and experience, plays a significant role in the emotional well-being of physicians, suggesting that empathy can buffer against burnout (Gleichgerrcht & Decety, 2013).

In summary, the findings demonstrate significant negative correlations between emotional exhaustion and both empathic concern and dispositional optimism. The regression analyses confirm that these variables significantly predict emotional exhaustion, explaining a substantial portion of the variance in emotional exhaustion scores. These results highlight the importance of empathic concern and dispositional optimism in mitigating emotional exhaustion among professionals.

The negative relationship between empathic concern and emotional exhaustion may be explained by the social support and prosocial behaviors that empathy fosters. Kardos et al. (2017) demonstrated that individuals with higher empathic abilities tend to have larger social networks, which provide emotional and practical support. This social support can mitigate the effects of stress and reduce feelings of emotional exhaustion (Kardos et al., 2017). Furthermore, Berry et al. (2018) found that mindfulness practices enhance empathic concern and subsequently increase prosocial responses, suggesting that empathy not only reduces burnout but also promotes positive social interactions and support networks (Berry et al., 2018).

#### 4. Discussion and Conclusion

The present study aimed to investigate the relationships between emotional exhaustion, empathic concern, and dispositional optimism in a diverse sample of professionals. The results indicated significant negative correlations between emotional exhaustion and both empathic concern ( $r = -0.45$ ,  $p < 0.001$ ) and dispositional optimism ( $r = -0.52$ ,  $p < 0.001$ ). Furthermore, linear regression analysis revealed that both empathic concern ( $\beta = -0.31$ ,  $p < 0.001$ ) and dispositional optimism ( $\beta = -0.39$ ,  $p < 0.001$ ) were significant predictors of emotional exhaustion, collectively

Dispositional optimism's negative correlation with emotional exhaustion is consistent with the Conservation of Resources (COR) theory, which posits that optimism helps individuals to effectively manage and replenish their emotional and psychological resources (Lin et al., 2022). Optimistic individuals are more likely to engage in adaptive coping strategies and maintain a positive outlook, which buffers against the depletion of emotional resources and reduces the likelihood of burnout. Delgado et al. (2021) highlighted the importance of optimism and mental state inference in preventing burnout in medical contexts, further supporting the protective role of optimism found in our study (Delgado et al., 2021).

The linear regression results underscore the importance of both empathic concern and dispositional optimism in predicting emotional exhaustion. These findings suggest that interventions aimed at enhancing empathy and optimism could be effective in reducing burnout. For example, empathy training programs and mindfulness-based interventions could be implemented to foster empathic concern, while cognitive-behavioral strategies could be used to cultivate a more optimistic outlook. The study by Tei et al. (2014) on empathy-related brain activity and burnout severity underscores the potential for neurobiological interventions to enhance empathic engagement and reduce emotional exhaustion (Tei et al., 2014).

However, it is important to consider the potential for empathy to also contribute to emotional exhaustion under certain conditions. Gleichgerrcht and Decety (2013) noted that while empathy is generally protective, excessive empathic engagement can lead to emotional distress and burnout, particularly in high-stress professions like healthcare (Gleichgerrcht & Decety, 2013). This suggests the need for balanced approaches that promote empathy while also providing strategies for emotional regulation and self-care.

Overall, the findings of this study contribute to the growing body of literature on the protective roles of empathic concern and dispositional optimism against emotional exhaustion. They underscore the importance of fostering these traits in professional settings to enhance psychological resilience and well-being. Future research should continue to explore the mechanisms underlying these relationships and develop targeted interventions to support individuals in high-stress occupations.

Despite the robust findings, this study has several limitations. First, the cross-sectional design limits the ability to draw causal conclusions. Longitudinal studies are needed

to examine the directionality of the relationships between these variables. Second, the sample was drawn from diverse professional fields, but the generalizability of the findings may be limited to similar contexts. Future research should include a broader range of professions and cultural contexts to enhance the generalizability of the results. Third, self-report measures were used, which can be subject to social desirability bias and may not accurately capture the constructs of interest. The use of objective measures and multi-informant reports could address this limitation.

Future research should explore the mechanisms through which empathic concern and dispositional optimism influence emotional exhaustion. Investigating the role of mediating variables such as coping strategies, social support, and job demands could provide deeper insights into these relationships. Additionally, experimental and longitudinal studies are needed to establish causal pathways and examine the long-term effects of interventions aimed at enhancing empathy and optimism. Research should also consider the potential moderating effects of individual differences, such as personality traits and cultural factors, on the relationships between these variables.

The findings of this study have practical implications for reducing emotional exhaustion in professional settings. Organizations should consider implementing interventions that promote empathic concern and dispositional optimism among employees. Empathy training programs, mindfulness-based stress reduction, and cognitive-behavioral techniques can be effective in fostering these traits. Additionally, providing opportunities for social support and creating a positive work environment can help mitigate the effects of stress and reduce burnout. Employers should also encourage self-care practices and provide resources for emotional regulation and resilience building. By fostering a supportive and optimistic work culture, organizations can enhance the well-being and productivity of their workforce.

### Authors' Contributions

Authors contributed equally to this article.

### Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

### Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

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## Declaration of Interest

The authors report no conflict of interest.

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## Ethics Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

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