

Article

# Empathy Adds Incrementally to the Association of Self-Efficacy and Optimism with Psychological Health in Healthcare Volunteers

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**Abstract:** Optimism and self-efficacy have been associated with psychological health. Empathy has also been found to promote positive functioning and to have a unique role in community health volunteering. This study investigated whether self-efficacy and optimism were associated with psychological and subjective well-being in a group of healthcare volunteers and whether empathy added incrementally to these associations. A sample of 160 Italian clown doctors volunteering in various hospitals completed self-report measures of self-efficacy, optimism, empathy, psychological well-being, and subjective well-being. Results indicated that self-efficacy and optimism were associated with both outcomes and that aspects of empathy, such as others' perspective-taking and personal distress for others' difficulties, incrementally added to these associations, although with opposite effects. The present study adds to previous research on the role of self-efficacy, optimism, and empathy for community health volunteers' psychological health and offers suggestions regarding the training of this type of volunteer.

**Keywords:** : volunteers; self-efficacy; optimism; empathy; psychological well-being; subjective well-being; incremental contribution

## 1. Introduction

Volunteering can be defined as intentional behavior aimed at supporting, preserving, and promoting social values without waiting for any moral or material rewards [1]. It is a proactive helping activity aimed at enhancing social capital, strengthening the community, and delivering services that otherwise would have costs or be underprovided [2]. Due to its central role in the society, this helping behavior has been extensively investigated, and several studies have highlighted the importance of individual characteristics in predisposing people to volunteering, such as high levels of extraversion, resilience, self-efficacy, prosocial value motivations, and low levels of neuroticism [3-5].

The central aspect of volunteering is the free will to help others. However, research has shown that people are motivated to volunteer to pursue altruistic goals and generate societal benefits, but also to grow and satisfy personal psychological needs [5-8]. Previous studies have shown that

volunteering can provide benefits to the volunteers' physical, social, and psychological well-being [9-12]. Data from the literature provide compelling evidence that there is a link between volunteering and various measures of subjective well-being [13,14].

In the last three decades, a growing number of people have approached the clown activity in healthcare settings since it was found to help to humanize healthcare and promote patients' good health [15,16]. Clowns are colloquially called "clown doctors" as they are identified as part of the hospital medical staff, although they do not necessarily have a university degree [17]. Both volunteers and professional clowns usually practice the art of healthcare clowning. Previous research showed that volunteer clown doctors possess individual characteristics similar to those of volunteers in other settings, such as high extraversion and low neuroticism levels [18], high self-efficacy, and motivations such as self-improvement and development of new skills [19]. However, no research has investigated the individual characteristics that may contribute to this type of healthcare volunteer's psychological health. Only a recent study found that engaging in civic volunteering was beneficial for subjective well-being not only directly, but also indirectly via self-efficacy among people older than 55 years [20].

Psychological health is a broad concept that has been referred to as a variety of different constructs. Among them, in contemporary positive psychology research, a distinction was made between eudaimonia and hedonia [21], which are often defined and assessed as psychological well-being and subjective well-being, respectively. Psychological well-being was defined as the realization of one's own authentic self and conceptualized as positive functioning in several domains: self-acceptance, positive social relations, autonomy in thought and action, meaning and purpose in life, and continuous growth as a person [22]. Subjective well-being was defined in terms of a person's positive cognitive and affective evaluations of her or his life including satisfaction with life and the experience of positive emotions and mood states [23]. Subjective well-being has also been intended as a condition of self-perceived positive mental health based on feelings of being calm, relaxed, active, cheerful, and with a full life [24]. Since psychological and subjective wellbeing refer to different constructs, it is worth considering both of them as outcomes in research trying to identify what can positively influence people's mental health.

Multiple factors have shown to determine an individual positive psychological functioning; among them, self-efficacy and optimism were found to play a role in influencing both the psychological and subjective well-being of people [25-27].

### *1.1. Self-Efficacy, Optimism, and Psychological Health*

Self-efficacy refers to the individuals' beliefs about their capability to produce given attainments and perform specific tasks [28]. High self-efficacy is related to the stress process regulation: people confident in their capabilities do not avoid difficult tasks but rather approach them as challenges to be mastered. Thus, people high in self-efficacy tend to deal effectively with a variety of stressful situations to achieve their goals [29-32].

Optimism is considered a personality trait that refers to the generalized expectation of positive versus adverse outcomes in essential domains of life [33,34]. As a consequence of their positive view of the future, people with optimistic traits, compared to those with pessimistic traits, are more likely to use active coping strategies and thus experience less distress when faced with

stressful situations, [35], they are more likely to engage in social activities [36], and they achieve higher goal-related performance [37].

Self-efficacy and optimism are distinct constructs yet similar in some respects [38,39]. Both are related to positive thinking that may lead to positive functioning [40] and help people better address the difficulties [41]. Furthermore, both self-efficacy and optimism are relatively stable cognitive traits that pertain to positive expectations of achieving good outcomes in life [42].

Extensive research has documented the link of self-efficacy and optimism with positive psychological health. Self-efficacy was found to be associated with the psychological well-being of nursing home residents, and this association was partially mediated by social engagement [43]. Self-efficacy was associated with higher subjective well-being [44] and its components like positive affect [45] and life satisfaction [46]. It was also directly associated with subjective well-being in nurses [47]. The level of optimism was a significant predictor of volunteerism, which in turn affected life satisfaction and psychological well-being [48]. A meta-analysis found that optimism had moderate to large associations with the three aspects of subjective well-being of positive affect, negative affect, and satisfaction with life [25], and a more recent study found a direct effect of optimism on subjective well-being [49].

### *1.3. Empathy and Psychological Health*

Empathy can be defined as an individual's tendency to empathize with others, which develops in the first childhood and remains relatively stable throughout the lifespan [50-52]. Davis [50] identified an affective and a cognitive component of empathy. The affective component includes empathic concern, which involves other-oriented feelings of sorrow for others' misfortune, and personal distress, which involves feelings of distress for the difficult situations of another. The cognitive component refers to perspective taking as the ability to accurately imagine and adopt the psychological point of view of others. Global empathy, and its empathic concern and perspective-taking components have been linked to better psychological and subjective well-being and to lower distress [53,54]. A study of older adults' informal caregivers showed that those with high cognitive empathy appraised the caregiving situation as less stressful and less threatening, pointing out how, in contrast, low empathy was linked to reduced well-being and more depressive symptoms [55]. The construct of empathy has been especially studied in the healthcare setting, with consistent evidence that healthcare professionals high in empathic concern and perspective-taking report higher psychosocial well-being; instead, a greater focus on the negative affect felt in the presence of another's suffering has been linked to emotional exhaustion and higher risk for burnout [56-58].

Empathy is a crucial component of engaging in prosocial behavior and plays an important role in the decision to volunteer [5,53]. According to the empathy-altruism model [59], empathy evokes empathic feelings, which elicit altruistic motivation by producing interest in the others' well-being. Moreover, higher levels of empathy and helpfulness are positively associated with the amount of time spent on volunteering and the duration of the voluntary service [60]. Therefore, it would be expected that empathy also plays a role in enhancing the volunteers' positive functioning.

This study aimed to test whether self-efficacy and optimism were positively associated with the psychological health of a group of volunteer clown doctors and whether empathy incrementally

added to these associations. Our general intent was to add to the knowledge of how healthcare volunteers can benefit from their volunteering activities.

## 2. Materials and Methods

### 2.1. Participants

Participants completed an online sociodemographic form including gender, age, education (secondary school or university degree), length of volunteer service (months), and previous volunteering experience (yes/no). Participants who completed the online survey were 160 volunteer clown doctors, 63.7% were females ( $n = 102$ ), and their age was between 20 and 60 years ( $M = 32.5$ ,  $SD = 9.5$ ). Their education level was a secondary school (50.6%) or university degree (49.4%). The length of experience as volunteer clown doctors varied from 1 to 132 months ( $M = 42.4$ ,  $SD = 28.6$  months). About one third (34.4%) of participants ( $n = 55$ ) had no other volunteering experience before starting their clown activity.

### 2.2. Measures

Self-efficacy was assessed with the Perceived Personal Efficacy for members of Voluntary associations (PPEV) [61]. This 18-item self-report Italian scale measures the extent to which a member of a voluntary association feels capable of facing the challenges and critical events occurring during her or his volunteer activity (e.g., "I am able to handle the stress of my work as a volunteer", "I am able to cooperate with my colleagues"). Responses are provided on a 5-point scale from 1 (complete disagreement) to 5 (complete agreement). An overall higher score corresponds to higher personal self-efficacy levels. Cronbach's  $\alpha$  in this study was 0.86.

Optimism was measured with the Life Orientation Test-Revised (LOT-R) [62] in its Italian version [63]. The LOT-R contains 10 items (e.g., "In uncertain times, I usually expect the best", "If something can go wrong for me, it will") rated on a 5-point scale from 0 (strongly disagree) to 4 (strongly agree). Four items are unscored fillers. Higher LOT-R total scores indicate higher optimism. Cronbach's  $\alpha$  in this study was 0.71.

Empathy was measured with the Interpersonal Reactivity Index (IRI) [50] in its Italian version [64]. The IRI is a 28-item multidimensional measure of four 7-item components: Fantasy (IRI-Fs) as the tendency to identify with fictitious characters (e.g., "I really get involved with the feelings of the characters in a novel"); Perspective Taking (IRI-PT) as the ability to adopt the perspective of others (e.g., "I try to look at everybody's side of a disagreement before I make a decision"); Empathic Concern (IRI-EC) as the tendency to experience feelings of compassion and sympathy for others in need (e.g., "I am often quite touched by things that I see happen"), and Personal Distress (IRI-PD) as the proneness to feel uncomfortable about the distress of others (e.g., "When I see someone who badly needs help in an emergency, I go to pieces"). Items are rated on a 5-point scale from 0 (does not describe me well) to 4 (describes me very well). Higher subscale scores indicate greater empathic tendencies. Cronbach's  $\alpha$  in this study was 0.75 for IRI-Fs and IRI-PD, 0.76 for IRI-PT, and 0.70 for IRI-EC.

Psychological well-being was measured with the 18-item Psychological Well-Being Scales (PWBS) [22], which refer to positive psychological functioning in terms of Self-Acceptance, Environment Mastery, Quality Relationships, Growth and Development, Purposeful Living, and Autonomy. Items (e.g., "For me, life has been a continuous process of learning, changing, and

growth”) are rated on a 6-point scale from 1 (completely disagree) to 6 (completely agree). We used the Italian version [65] with a higher global score indicating greater psychological well-being. In this study, Cronbach’s  $\alpha$  for the global index was 0.72.

Subjective well-being was measured with the Five-Item World Health Organization Well-Being Index (WHO-5) [24], a 5-item self-report measure of positive feelings in the last two weeks (e.g., “I have felt cheerful and in good spirits”). Items were rated on a 6-point scale from 0 (none of the time) to 5 (all of the time), with a higher global score indicating greater perceived subjective well-being. Cronbach’s  $\alpha$  in this study was 0.83.

### 2.3. Procedure

Potential participants were contacted through the National Federation of Clown Doctors (FNC), whose Ethics Board approved the study, which respected the ethical principles outlined in the Declaration of Helsinki. A link to the online battery created for this study was posted on the FNC social network site. The first page of the survey contained an informed consent statement that described the study and ensured the participants’ anonymity. Only after clicking the “Yes, I consent to participate” button, respondents were directed to the online questionnaire. The criteria for being included in the study were having at least one-month of experience as a volunteer healthcare clown and being older than 18 years. The only exclusion criterion was being a professional clown doctor since this study targeted healthcare volunteers. A total of 160 volunteer clown doctors answered the online survey.

### 2.4. Data Analysis

Reliability of measures was calculated in this study sample using Cronbach’s alpha with an acceptable value of  $\geq 0.70$ . Preliminary assumptions of normality and homoscedasticity were checked, and levels of multicollinearity were examined. Pearson’s bivariate correlations and analyses of variance (ANOVAs) were performed to select the independent variables to be included in the regression models based on their significant associations with the dependent variables. Hierarchical multiple linear regression analyses were used to examine whether self-efficacy and optimism were associated with psychological and subjective well-being and whether empathy added incrementally to these associations. Two separate linear regression models were tested with PWBS and WHO-5 total scores as the outcome variable, respectively. For each model, self-efficacy (PPEV) and optimism (LOT-R) scores were entered at the first step, and each of the empathy (IRI) subscales was entered at the subsequent steps. The significance level was set at  $p \leq 0.05$ . Interpretation of effect sizes was based on Cohen’s [66] recommendations, with Pearson’s  $r$  of 0.10 considered small, 0.30 medium, and 0.50 large, and  $R^2$  and  $\eta^2$  of 0.01 considered small, 0.09 medium, and 0.25 large. Analyses were performed with the statistical package for social sciences IBM SPSS for Windows, Version 26.0, released in 2019 by IBM Corp., Armonk, NY.

## 3. Results

### 3.1. Preliminary Results

The reliability of measures was acceptable with all the Cronbach’s alpha values  $\geq 0.70$ , as reported in paragraph 2.2. A check of assumptions for both regression models showed that the predicted probability plot’s residuals followed a normal distribution (Figures S1 and S2). By plotting

the predicted values and residuals on a scatterplot, homoscedasticity emerged (i.e., residuals were equally distributed; Figures S3 and S4). variance inflation factor values were all below 1.5 (Tables S1 and S2), indicating an absence of multicollinearity, although some of the independent variables were slight to moderately intercorrelated (Table 1). (Plots and values of the variance inflation factor are reported in Supplementary Materials, Figures S1, S2, S3, and S4, and Tables S1, and S2).

Correlation coefficients indicated that both Self-Efficacy and Optimism were significantly, moderately-to-strongly associated with PWBS and WHO-5 scores (Table 1). Empathy was differently associated with the outcomes depending on its dimensions: Empathic Concern and Fantasy were unrelated to both PWBS and WHO-5 and were thus excluded from the subsequent regression analyses. Perspective Taking and Personal Distress were significantly, moderately associated with both outcomes, in a positive or negative direction, respectively. Sociodemographic variables (i.e., gender, age, education, length of volunteer service, and previous volunteering experience) were not significantly associated with PWBS and WHO-5 (Tables S3, S4, S5, S6, and S7); therefore, they were not controlled for in the regression analyses. The two regression models included Self-Efficacy and Optimism at step 1, Empathy-Perspective Taking at step 2, and Empathy-Personal Distress at step 3 (Table 2).

**Table 1.** Pearson's correlations between the study psychological variables

	1	2	3	4	5	6	7
1. Self-efficacy (PPEV)	-						
2. Optimism (LOT-R)	0.31***	-					
3. Empathy (IRI-Fs)	0.09	0.18*	-				
4. Empathy (IRI-PT)	0.43***	0.28***	0.27***	-			
5. Empathy (IRI-EC)	0.24**	0.17*	0.36***	0.31***	-		
6. Empathy (IRI-PD)	-0.45***	-0.19*	0.09	-0.27***	0.05	-	
7. Psychological well-being (PWBS)	0.49***	0.45***	0.02	0.38***	0.15	-0.38***	-
8. Subjective well-being (WHO-5)	0.37***	0.25***	0.06	0.38***	0.10	-0.30***	0.41***

Fs = Fantasy; PT = Perspective taking; EC = Emphatic concern; PD = Personal distress

\* $p < 0.05$ . \*\* $p < 0.01$ . \*\*\* $p \leq 0.001$ .

### 3.2. Incremental role of Empathy

The results of the multiple linear regression models are presented in Table 2. In the first regression model, with PWBS as the outcome variable, self-efficacy and optimism jointly explained 33% of the outcome variability. Adding Perspective Taking at the second step provided a significant, small improvement in the explained variability, which reached 35%. Adding also Personal Distress at the third step, the explained variance further significantly increased to 36%. Standardized beta values of empathy subscales were significant, with a positive sign for Perspective Taking and a negative sign for Personal Distress. The magnitude of the individual associations was large for self-efficacy and optimism and medium for empathy dimensions.

In the second regression model, with WHO-5 as the outcome variable, self-efficacy and optimism jointly explained a moderate portion (15%) of the variance. The magnitude of the association with subjective well-being was large for self-efficacy and moderate for optimism. The addition of Perspective-Taking at the second step incrementally added a small-to-medium amount of explained variability, reaching 19% of total explained variance, and optimism did not give a significant contribution anymore. Adding Personal Distress at the third step did not significantly improve the model, which explained 20% of the variability with a nonsignificant contribution of Personal Distress.

**Table 2.** Results of hierarchical linear regression analyses.

Independent variable	Outcome variable					
	Psychological well-being (PWBS)			Subjective well-being (WHO-5)		
	<i>Adjust. R<sup>2</sup></i>	$\Delta R^2$	$\beta$	<i>Adjust. R<sup>2</sup></i>	$\Delta R^2$	$\beta$
<b>Step 1</b>	0.33***			0.15***		
Self-efficacy (PPEV)			0.39***			0.32***
Optimism (LOT-R)			0.33***			0.15*
<b>Step 2</b>	0.35***	0.02*		0.19***	0.05**	
Self-efficacy (PPEV)			0.33***			0.23**
Optimism (LOT-R)			0.30***			0.11
Empathy – (IRI-PT)			0.16*			0.25**
<b>Step 3</b>	0.36***	0.02*		0.20***	0.02	
Self-efficacy (PPEV)			0.27***			0.18*
Optimism (LOT-R)			0.29***			0.10
Empathy – (IRI-PT)			0.14*			0.24**
Empathy – (IRI-PD)			-0.16*			-0.14

PT = Perspective Taking; PD = Personal Distress

\* $p < 0.05$ . \*\* $p < 0.01$ . \*\*\* $p \leq 0.001$ .

#### 4. Discussion

This study's objective was to test whether self-efficacy and optimism were associated with psychological and subjective well-being among volunteer clown doctors and whether empathy dimensions incrementally added to these associations. We chose these volunteers as they are required to be especially able to empathically listen and respond to the emotional state of people, mostly children, in the hospital [17], besides possessing specific skills, such as a good sense of humor, and the capacity to elicit smiling and laughter. However, this was the first study

investigating whether specific psychological characteristics of these volunteers can contribute to their positive functioning.

This study's findings indicated that self-efficacy and optimism were associated with the positive functioning of the clown doctors participating in the study and that empathy explained an incremental variability in the outcome variables. Self-efficacy and optimism jointly explained a moderate-to-large portion of the variability in positive psychological functioning, in line with previous evidence [25,26,30-32,67]. Noteworthy, when empathic perspective-taking was entered in the regression model with positive mental health as the outcome, the contribution of optimism became nonsignificant. This result is coherent with experimental evidence that taking on others' points of view can reduce individuals' unrealistic optimism about the likelihood of specific life outcomes [68].

As for the incremental contribution of empathy, the cognitive ability to imagine other people's points of view added an incremental 2% in the variance of psychological well-being and an incremental 5% in the variance of subjective well-being. These findings were in line with consistent evidence showing an association of the intellectual component of empathy with increased emotional adjustment in the general population and healthcare staff [53,57,58]. Perspective-taking involves a shift in the perspective and understanding of another's situation as separate from one's own; thus, it requires a self-other distinction that differentiates it from emotional contagion and is likely responsible for its association with psychological and subjective well-being.

The affective component of empathy represented by personal distress also explained an incremental 2% of the variability in psychological well-being above self-efficacy and optimism, whereas its association with positive mental health did not reach statistical significance. In both models, higher personal distress was linked to worse psychological well-being and mental health, consistent with previous research pointing to the potentially adverse implications of an individual's tendency to experience negative affect when exposed to another person's plight [56-58]. This empathy component involving vicarious arousal is likely to have a negative effect, especially on the interpersonal dimension of the psychological well-being of the PWBS construct.

Fantasy as the tendency to become immersed in the feelings and actions of fictional characters was unrelated to participants' psychological health, consistent with previous studies [50,69]. Moreover, some researchers do not consider fantasy as a core element of the empathic experience [52,53]. Instead, the nonsignificant association found in this study between empathic concern and well-being is inconsistent with the majority of previous studies, which reported significant positive associations [53,57,58]. Such a result might be partly attributable to the peculiarity of our sample. In the literature, an association between other-oriented feelings of sympathy for the others' misfortune and the willingness to get involved in volunteer work has been suggested [50]. Therefore, it is possible that for individuals with great empathic concern for others, this component of empathy is not relevant to their mental health. However, further studies are needed to interpret these findings better.

#### *4.1. Limitations and Future Directions*

The study's principal limitation was its cross-sectional design that did not allow conclusions about the causal effects of the participants' characteristics on their psychological state. Further longitudinal studies are thus warranted to replicate our findings. It would also be desirable to

replicate the study with professional clown doctors to investigate whether the associations found in this study can be extended to them. Another limitation is that we did not use measures of patients' or hospital staff's perspective on the clown doctors' empathic skills. Future studies using multiple informants are thus encouraged. Finally, among the independent variables, only self-efficacy referred explicitly to the volunteer activity; therefore, future studies might use measures of both optimistic and empathic tendencies related to volunteering.

## 5. Conclusions

The present study adds to previous research on self-efficacy, optimism, and empathy for community health volunteers' psychological health. It also highlights that empathy is a complex construct with multiple domains that can have different effects. While other-oriented perspective-taking seems to have beneficial effects, self-oriented aversive emotional reaction to others' suffering might negatively impact the mental well-being of community health volunteers.

Our findings have implications for the training of volunteer clown doctors, focusing on specific dimensions of empathy. Although empathy has been conceptualized as a relatively stable tendency [50], there is evidence that it can be taught with effective empathy training programs [70]. Our findings encourage trainees' engagement in perspective-taking exercises and role-playing to foster their cognitive skills of taking the point of view of their assisted patients, which may promote potential benefits for their psychological health. On the other hand, improving their self-regulation abilities to reduce self-focused distress in response to needy people might prevent empathic over-arousal [5] and preserve their mental health.

**Supplementary Materials:** The following are available online at [www.mdpi.com/xxx/s1](http://www.mdpi.com/xxx/s1), Figure S1: Normal P-P Plot of regression standard. residuals. Dependent variable: Psychological well-being (PWBS), Figure S2: Normal P-P Plot of regression standard. residuals. Dependent variable: Subjective well-being (WHO-5), Figure S3: Scatterplot. Dependent variable: Psychological well-being (PWBS), Figure S3: Scatterplot. Dependent variable: Psychological well-being (PWBS), Table S1: Regression coefficients and collinearity statistics for Psychological well-being (PWBS), Table S2: Regression coefficients and collinearity statistics for Subjective well-being (WHO-5), Table S3: Pearson's correlations of continuous sociodemographic variables with the outcomes, Table S4: Descriptive statistics of Psychological Well-Being (PWBS) by categorical sociodemographic variables, Table S5: Associations of categorical sociodemographic variables with Psychological well-being (PWBS): ANOVA tests of between-subjects effects, Table S6: Descriptive statistics of Subjective well-being (WHO-5) by categorical sociodemographic variables, Table S7: Associations of categorical sociodemographic variables with Subjective well-being (WHO-5): ANOVA tests of between-subjects effects.

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