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RESEARCH ARTICLE

Mindfulness as a Mediating Factor between Empathy and Burnout in People of Caring Professions

Simon Surguladze^{1,2*}, George Chikovani¹, Tamar Revazishvili¹, Nata Dzadzamia¹, Tatia Razmadze¹, Nino Iashvili¹ and Dessa K Bergen-Cico³

¹Ilia State University, Tbilisi, Georgia

²Institute of Psychiatry, Psychology & Neuroscience, King's College London, UK

³Department of Public Health, Syracuse University, Syracuse, NY, USA



*Corresponding author: Dr. Simon Surguladze, PhD, DSc, Institute of Psychiatry, Psychology & Neuroscience, King's College London De Crespigny Park London SE5 8AF, UK, E-mail: simon.2.surguladze@kcl.ac.uk

Abstract

People working in caring professions are at increased risk of experiencing compassion fatigue and burnout. The aims of this study were to investigate potential mediating effects of mindfulness on burnout. This is a cross-sectional study of mental health professionals working in psychologically challenging settings. Thirty-seven professionals (all female) were assessed for empathy, trait mindfulness and Professional Quality of Life (ProQOL) measure that includes subscales of Burnout, Compassion satisfaction and Compassion fatigue/Secondary trauma. Pathway analysis was applied to test potential direct and indirect effects of empathy on subscales of ProQOL and the mediating effects of mindfulness on those relationships. Our study demonstrate that empathy had no independent direct effect on burnout. There was a significant negative indirect effect of empathy on burnout, with trait mindfulness serving as a mediating factor. Moreover, trait mindfulness also had an independent negative effect on burnout.

Our results provide evidence for the role of trait mindfulness in the relationship between empathy and burnout in professionals. Trait mindfulness appears to be a protective factor against burnout.

Keywords

Empathy, Emotion regulation, Mindfulness, Burnout, Compassion satisfaction

Introduction

Health care professionals, working with vulnerable and traumatized clients may face an increased risk

for emotional and psychological distress [1]. Excessive stress has been associated with susceptibility to emotional disorders and elevated risk for suicide in professionals [2]. A meta-analysis of physician suicide revealed that male physicians are 1.41 times more likely and female physicians are 2.27 times more likely to die by suicide compared to their counterparts in the general population [3]. These conditions of emotional and psychological distress have been described by different terms - empathic distress, compassion fatigue or burnout [4-6]. The forms of trauma-related stress conditions and professional burnout are often erroneously discussed either interchangeably or grouped together as one condition in the literature, therefore Newell & MacNeil [1] suggested to consider them separately. The authors postulated that vicarious trauma, secondary traumatic stress, and compassion fatigue are conditions related specifically to work with trauma populations, while professional burnout is considered a more general phenomenon which may occur within any social service setting. In our study we were interested in professional burnout (as defined by Newell & MacNeil [1]) occurring in care specialists working in various settings in Georgia. We investigated potential relationships between burnout and individual abilities of empathy and emotion regulation, both of which have been implicated in burnout. Investigators have recognized empathy as a necessary component of emotional health [7]. Moreover, empathic people have positive effect on well-being of those around



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them. This is especially true for people in the helping or caring professions and the carer-patient relationships. It has been shown that patients interacting with empathic health care providers have better outcomes [8,9]. Empathy is a multidimensional construct, e. g. Decety [10] highlighted three facets of empathy:

- 1) Affective empathy, i.e. ability to experience and share the emotions of others,
- 2) Empathic concern: Motivation to caring for another's welfare,
- 3) Perspective taking (or cognitive empathy), the ability to consciously put oneself into the mind of another and understand what that person is thinking or feeling.

The experience of empathy often results in concern for another and prosocial behaviour, although it also can lead to empathic over-arousal or personal distress [11].

Other authors [12,13] reported negative correlations between empathy and burnout, although due to nature of their statistical approach the direction of these association was not clear.

It has been suggested [11] that prosocial empathetic behaviour relies not only on empathic qualities of an individual, but also on emotion regulation mechanisms. These authors highlighted the aspects of agency and self-awareness as important components of emotion regulation which are necessary to inhibit distress and allow for the self-regulated consideration of the other's situation. A related study demonstrated that the vulnerability to distress in health care professionals was specifically linked to their difficulties regulating their negative emotions [14].

Mindfulness - related abilities and practices have been shown to be closely linked to the mechanisms of emotion regulation [15,16], relying heavily on aspects of agency and self-awareness. Neuroimaging studies demonstrated that mindfulness practices [17] as well as trait mindfulness [18] were associated with the activity of brain regions responsible for emotion regulation.

The literature on mindfulness has been expanding for the last 10 years, however there has been little consistency in terms of terminology and interpretation of psychological processes broadly defined as mindfulness [19]. Mindfulness-based practices such as meditation are secular contemplative practices focusing on cultivating an individual's attention and awareness of thoughts, emotions and reactions [20,21]. Mindfulness practices have demonstrated strong effect on reducing job burnout among health care professionals and teachers [22-24]. Beyond the context of meditation *practice*, mindfulness could be considered as a *construct*, seen more generally as an attitude to face emotional situations with a focus on the current experience [25]. From this perspective, mindfulness could have an emotion-regulating effect in everyday emotional situations. In this study we

employed psychometric measure of trait mindfulness that is based on the mindfulness construct. Psychometric measures of mindfulness proved instrumental for understanding the nature of mindfulness and its components and the mechanisms by which mindfulness training exerts its beneficial effects. These self-report measures of mindfulness include the Freiburg Mindfulness Inventory [26], the Kentucky Inventory of Mindfulness Skills [27], the Mindful Attention Awareness Scale [28], the Cognitive and Affective Mindfulness Scale [29], Five Facet Mindfulness Questionnaire [30], and the Southampton Mindfulness Questionnaire [31].

We were interested in investigating possible relationship between empathy, trait mindfulness and burnout among individuals working in caring professions. The investigators thus far have reported that high empathy may contribute to the risk to burnout. Other studies demonstrated protective role of mindfulness against burnout. To our knowledge, there have been no studies to investigate inter-relationships between the empathy, trait mindfulness and burnout within the same population. In line with the reported role of emotion regulation as a protective process against burnout, we hypothesized that trait mindfulness will show buffering role in mediating the relationship between the empathy and burnout.

Method

Study participants

The study was conducted in Tbilisi, Georgia where the psychological burden on individuals working in caring professions has been constantly high for the last 20 years, since the country gained independence from Soviet Union. Participants include social workers, psychologists and teachers working in services dealing with traumatized or disadvantaged populations in Georgia. In total there were 37 participants (all female); $n = 8$ were working with torture survivors at the Georgian Centre for Psychosocial and Medical Rehabilitation of Torture Victims (GCRT); $n = 10$ worked at First Step Georgia (FSG), a non-profit organization working with children with special needs; and $n = 20$ worked in a Tbilisi public school which cares for students with cognitive and behavioral problems. The mean age was 35.9 (SD , 10.1) range 23-58. All participants were White Caucasians. The Structured Clinical Interview for DSM-IV [32] was used to exclude any mental disorder, brain injury or substance abuse. Participants completed a written informed consent form before beginning the surveys. This study was approved by the Ilia State University research ethics review committee and has been performed in accordance with the ethical standards as laid down in the 1964 Declaration of Helsinki and its later amendments or comparable ethical standards.

Measures

Empathy Quotient [33] is a self-report questionnaire,

for use with adults of normal intelligence. It contains 40 empathy items and 20 filler/control items. On each empathy item a person can score 0, 1 or 2 and the items are summed for a total EQ score with a potential range from a maximum score of 80 to a minimum of zero. Although the original instrument EQ does not provide for the assessment of separate aspects of empathy, the subsequent study [34] has demonstrated three-factor solution, based on Principal Component Analysis of the data. In particular, the factors of Cognitive empathy, Emotional reactivity and Social skills were reported. In our study, we chose to use the total score of EQ rather than separate factors, due to two reasons: a) We were interested in exploring the relationship between empathy and the emotion regulation abilities (which are outside of empathy construct); b) The sample size was not large enough to enter 4 predictors (3 empathy dimensions plus one of trait mindfulness) into regression analysis.

Mindfulness was measured with the Five Facet Mindfulness Questionnaire Short Form [35]. The FFMQSF evaluates trait mindfulness that has been found to be evident at varying rates among the general population. The five facets reflect various aspects of emotion regulation and are presented as five subscale measures e.g. Observing, Describing, Acting with awareness, Non-judging of inner experience, and Non-reactivity to inner experience. Our analysis was conducted using the total composite score of the five subscales.

The Professional Quality of Life [36] is a validated measure of the negative and positive aspects of helping others who experience suffering and trauma. The ProQOL has three discrete subscales for Compassion Satisfaction (CS), Burnout (BO), and Compassion fatigue/Secondary trauma (CT). Each scale is psychometrically unique and cannot be combined with the other scores.

Analytic strategy

We used bootstrapping with 1,000 resampling methodology to account for the small sample size in each step of our analysis. Our analyses consisted of three steps - first we conducted a zero-order correlation between each of the variables for the psychometric measures described above. We then proceeded to conduct linear regression, and finally - Structural Equation Modelling (SEM) with path analysis to examine direct and indirect effects using AMOS for SPSS.

In defining our sample size, we followed guidelines [37] that recommended to have 10-15 participants per regression predictor. Having chosen 2 predictors, the minimal sample size would be 30 participants. Another guide for sample size [38] recommends that if the expected effect size in regression analysis is large (0.35), in order to achieve power of 0.8 with 2 predictors the sample size should be around 40. Thus, we were confident that the sample size from 30-40 would provide for valid data, if the usual assumptions for regression analysis are met.

Table 1: Trait mindfulness, empathy and burnout dimensions scores.

	Measure	Score	Standard Deviation
1.	FFMQSF	82.7	8.5
2.	Empathy EQ	49.2	8.0
3.	ProQOL BO	22.2	5.3
4.	ProQOL CS	39.3	5.8
5.	ProQOL CT	26.3	5.3

Table 2: Correlations between Empathy, Mindfulness and Professional Quality of Life measures.

	Empathy EQ	FFMQSF Total	ProQOL CS	ProQOL BO	ProQOL CT
Empathy EQ	1	0.41*	0.38*	-0.40*	0.01
FFMQSF	0.41*	1	0.41*	-0.47**	-0.21
ProQOL CS	0.38*	0.41*	1	-0.58**	0.08
ProQOL BO	-0.40*	-0.47**	-0.58**	1	0.36*
ProQOL CT	0.01	-0.21	0.08	0.36*	1

*Correlation is significant at the 0.05 level (2-tailed); **Correlation is significant at the 0.01 level (2-tailed).

Results

The mean and standard deviations for each of the measurements are presented in [Table 1](#).

They include Five Facet Mindfulness Questionnaire Short form (FFMQSF), the Empathy Quotient Compassion satisfaction (CS) scale, the Professional Quality of Life (ProQOL) Compassion satisfaction (CS), ProQOL Burnout (BO), and ProQOL Compassion fatigue/Secondary trauma (CT) subscales.

Correlational analysis

There were significant correlations between empathy (EQ), mindfulness (FFMQSF), burnout (BO) and the compassion satisfaction (CS) sub-scales of the ProQOL. There were no significant correlations between the Compassion fatigue/Secondary trauma subscale (CT) and the variables of interest (EQ and FFMQSF), therefore, the CT scale was omitted from further analysis. The results of the correlation analysis are presented in [Table 2](#).

Linear regression analysis

Our second step in the analysis consisted of linear regression in which we tested two models. In the first model we entered BO as the dependent variable and EQ and FFMQSF measures as the independent variables. The overall model fit for model 1 was significant $F(2) = 6.3$; $p = 0.005$; $R^2 = 0.27$. In this model burnout was significantly predicted by FFMQSF ($\beta = -0.36$; $p = 0.03$) but not by EQ ($\beta = -0.25$; $p = 0.12$). Importantly, there was no multicollinearity between predictors. We conducted linear regression analysis with a second model using CS as the dependent variable with EQ and FFMQSF as independent variables. However, this model did not show significant effect for either independent variable on compassion satisfaction - effect of FFMQSF: $\beta = 0.3$;

$p = 0.08$; effect of EQ: $\beta = -0.26$; $p = 0.12$. Therefore, subsequent SEM analyses were only performed examining the relationships between EQ, FFMQSF and BO variables.

Structural equation modelling

The final step in our analysis consisted of structural equation modeling (SEM) with mediation analysis to examine the potential mediating effects of mindfulness on relationship between empathy and burnout. The SEM analysis used burnout BO scale as the dependent variable while EQ and FFMQSF measures were the independent variables.

The standardized direct (unmediated) effect of EQ on BO is -0.26 . This is in addition to any indirect (mediated) effect that EQ may have on BO. This effect was not statistically significant ($p = 0.10$). The standardized indirect (mediated) effect of EQ on BO was -0.15 . That is, due to the indirect (mediated) effect of EQ on BO, when EQ increases by one standard deviation, BO decreases by 0.15 standard deviations. This is in addition to any direct (unmediated) effect that EQ may have on BO. This effect was statistically significant ($p = 0.011$). The standardized total (direct and indirect) effect of EQ on BO is -0.404 . This effect was statistically significant ($p = 0.008$). The standardized direct (unmediated) effect of EQ on FFMQSF was 0.41 . This effect was statistically significant ($p = 0.006$). The standardized direct effect of FFMQSF on BO was -0.30 . This effect was statistically significant ($p = 0.02$). The mediating effects of mindfulness is illustrated in Figure 1. In summary, the path analysis demonstrated the mediating role of mindfulness on the relationship between the ProQOL subscales of burnout and empathy.

Discussion

Our study aimed at exploring role of empathy and trait mindfulness in predisposing to or preventing from burnout in people of caring professions. We demonstrated that trait mindfulness had a mediating effect on the relationship between empathy and burnout. In particular, we found an indirect negative effect of em-

pathy on burnout through the mediating variable of trait mindfulness (FFMQSF) whereby trait mindfulness augments the effect of empathy on burnout. Importantly, we could not detect any direct independent effect of empathy on burnout in the linear regression analysis which was also confirmed by path analysis. On the other hand, we observed direct negative effect of trait mindfulness on burnout. Thus, it appears that trait mindfulness has both mediating and direct effects on burnout. To further clarify the potential mechanisms of how trait mindfulness may be involved in (prevention of) burnout we performed post-hoc correlational analysis for each FFMQSF dimension vs. empathy and ProQOL. The only statistically significant correlations were between the *Acting with awareness* dimension of FFMQSF on the one hand, and the measures of Compassion satisfaction ($r = 0.45$, $p = 0.005$) and Burnout ($r = -0.56$; $p < 0.001$). This is very much in line with the conceptualization of self-awareness as an important component of emotion regulation which is necessary for inhibition of distress and support of prosocial behavior [11].

There is evidence to support the positive and protective effect of mindfulness in preventing burnout. A study by Krasner, et al. [23] found that training in mindful communication reduced psychological distress and burnout while also increasing empathy among health-care providers. Mindfulness-based practices, such as mindful meditation and yoga, have proven to be valuable practices which foster emotion regulation, reduce anxiety, and decrease traumatic stress [15,39,40]. Our study provides direct evidence of the mediating role of trait mindfulness on burnout. This may inform the professionals in their everyday practice as well as in developing their training programs.

Limitations

Our participant group is small which potentially could lead to type I error. We have applied bootstrapping procedure to account for the small study sample. Another limitation is that all our participants were female. There was one male participant in the original sample, however we removed him from the final analysis to establish a homogenous group of participants. The analysis was run with and without the single male participant and the analyses that included the male participant did not differ from those presented above. We acknowledge that our results may not be easily generalizable, however our sample composition reflects the true picture of the gender distribution amongst the people of caring professions in Georgia.

Conclusions

The results of our study are in line with proposals of beneficial/protective role of empathy and mindfulness against empathic stress or burnout. Although previous studies explored separate effects of empathy or mindfulness on burnout, to our knowledge this is the first

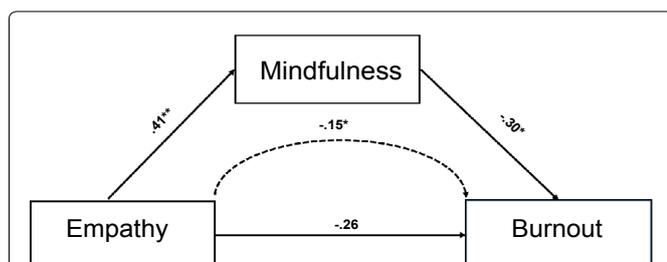


Figure 1: Empathy, Trait Mindfulness and Burnout: direct and indirect effects.

Solid lines: Standardized direct effects.

Dashed line: Standardized indirect effect of Empathy on Burnout.

* $p < 0.05$; ** $p < 0.01$.

study to directly examine the relationships between these three factors in the same cohort of professionals. We demonstrated that potential burnout could be (negatively) predicted not by the empathy per se, but rather by the joint effect of the empathy and trait mindfulness. Thus, the previous findings of direct association between empathy and burnout may need to be re-considered in light of potentially hidden or unexplored effect of mindful emotional regulation. We also demonstrated a strong negative effect of trait mindfulness on burnout. These findings may help to inform the health and care professionals in developing training programs geared at prevention of empathic distress. We believe that cultivating the abilities of mindfulness will strengthen their resilience to stress and maintain empathy.

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