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Articles

Emotional Intelligence and the Perception of Stressors at Work Among Healthcare Employees in Neonatology and Paediatrics

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Abstract

Addressing the stress of medical staff has become a priority in the health sector due to the high prevalence of professional exhaustion among healthcare employees and due to the negative outcomes associated with burnout of medical personnel. By measuring workplace stressors, the management of medical organizations can identify the most important sources of physicians' exhaustion and can change different administrative policies to reduce them. Another widespread practice in stress management is the measurement of individual differences that could be vulnerability or protection factors for the occurrence of exhaustion, such as emotional intelligence. This study explored the relationship between physicians' emotional intelligence and their perceived level of the most significant stressors. One hundred nine physicians (*Mage* = 35.42, *SD* = 7.05, 7.3% males, 92.7% females) from the field of neonatology, pediatrics, or anesthesiology, recruited from the South-West, South-East, and the North of Romania completed measures of emotional intelligence and perceived work-related stressors. Emotional intelligence (intrapersonal emotional intelligence, interpersonal emotional intelligence, stress management, adaptability, and general mood) was measured with the Romanian version of Bar-On Emotional Quotient Inventory (EQ-i) and perceived stressors at work (work relationship, aspects of the job, overload, control, lack of job security, lack of resources and communication, lack of work-life balance) were measured with the Romanian version of Organizational Stress Screening Tool (ASSET). The zero-order correlations among study variables were conducted, followed by a series of hierarchical multiple regressions. Stress management explained 11% of the extent to which work relationships were perceived as a stressor. Intrapersonal emotional intelligence accounted for 6.4% of the variance in the extent to which the lack of work-life balance was perceived as a stressor. Stress management accounted for 17% of the variance in the extent to which the lack of resources and poor communication were perceived as stressors. Intrapersonal emotional intelligence accounted for 6.6% of the variance in the extent to other aspects of the job were perceived as stressors. There were no differences regarding the perceived stressors between the considered geographic regions (South-West, South-East, and North). Drawing on these findings, decision-makers may develop training programs to enhance the level of emotional intelligence with the aim of decreasing work-related stress in the medical field in Romania.

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1. Introduction

Addressing the stress of medical staff has become a priority in the health sector (Hofmann & Group, 2018). This is due to the high prevalence of professional exhaustion among healthcare employees (Garcia et al., 2014) and due to the negative outcomes associated with burnout of medical personnel, including medical errors (West et al., 2006), a suboptimal level of medical care, and reduced patient safety (Salyers et al., 2016). Psychological issues had gain substantial interest from the medical fields, especially in terms of evidence-based applications (Hamberger et al., 2019; Merlo, 2019) and in association with various medical conditions (Martino et al., 2019; Rosa et al., 2019). For example, there is a high interest in understanding the psychological common factors in chronic diseases (Conversano, 2019; Kessler, 2009; Marek et al., 2020), such as in the case of type 2 diabetes in relatiship with alexithymia or depression (Martino et al., 2020a, 2020b, 2020c; Settineri et al., 2019b) at different levels (Dimitriu et al., 2020; Morianu et al., 2020).

Regardin the application of work psychology in healtcare sector, one common practice in managing professional exhaustion of medical staff is the measurement of stressors at work, such as lack of support from the supervisors, inefficiency of teamwork, poor relationships with colleagues, and low access to specific resources (Mccusker et al., 2005). This practice is reinforced by the fact that burnout is experienced even by medical students and residents, with levels higher than in the general population (Dyrbye & Shanafelt, 2016). A national survey of medical students, residents, and early career physicians form the United Stated indicated that this occupational group is more likely to be exhausted in comparation with the general population (Dyrbye et al., 2014). Some of the predictors of burnout in medical students are lack

of support, high levels of stress, and lack of control over their lives (Santen et al., 2010). Since experiencing less stress was associated with recovery from burnout (Dyrbye et al., 2010), a number of solutions have been proposed to reduce burnout among medical students, such as wellness interventions, teaching self-care skills, psychological education, and mentoring programmes (IsHak et al., 2013).

Existing studies support the importance of addressing burnout and resilience in caregivers and health professionals (Merlo et al., 2020a, 2020b, 2020c; Ramlan et al., 2020; Settineri et al., 2019a). By measuring workplace stressors, the management of medical organizations can identify the most important sources of physicians' exhaustion and can change different administrative policies to reduce them (Aiken et al., 2002). Another widespread practice is the measurement of individual differences that could be vulnerability or protection factors for the occurrence of exhaustion, such as emotional intelligence (Bar-On et al., 2000). This practice is useful in the development of training programs that aim at increasing the emotional intelligence of the healthcare staff (Augusto Landa et al., 2008). Emotional intelligence represents a set of emotional and social capabilities that are related to the individual's ability to cope effectively with environmental demands, including work demands, and it includes a series of components, such as assertiveness (being comfortable to express personal feelings, beliefs, and thoughts), impulse control (being capable to resist temptation and to control strong emotions), and stress tolerance (being able to cope with adverse or stressful situations) (Bar-On et al., 2000). Existing studies already indicate that healthcare employees (e.g., nurses) with high scores on emotional intelligence components report less occupational stress, including studies in which stress was measured with Organizational Stress Screening Tool (ASSET) (Nikolaou & Tsaousis, 2002). It is expected to replicate these results on Romanian healthcare staff. Recent meta-analytical findings support the effectiveness of emotional intelligence training (Hodzic et al., 2017), therefore investigating the association between emotional intelligence and perceived work stressors can indicate whether the increase in emotional intelligence of physicians may reduce the negative consequences associated with stress.

1.1 The present study

The purpose of the present research is to explore the relationship between emotional intelligence and the perception of stressors at work among healthcare employees. This approach could have important practical implications, because collecting this information can lead to personalized interventions for each employee in the medical sector or generalised interventions based on most common stressors. Based on the results of previous studies, we expect emotional intelligence to be negatively associated with the extent to which various aspects of the workplace (e.g., lack of work-life balance, work relationships, overload, job insecurity) are perceived as stressors by the medical personnel.

2. Materials & Methods

2.1 Participants and Procedure

We relied on 109 participants (*Mage* = 35.42, *SD* = 7.05, 7.3% males, 92.7% females) recruited from a development project (funded by the European Commission) that targeted the skills of neonatologists and anesthesiologists from Romanian provinces. All of them were employed in a hospital (22.9% from the North of Romania, 20.2% from the South-East of Romania, 56.9% from the South-West of Romania). They were specialized in neonatology, pediatrics, or anesthesiology. All the measures were administered in a paper and pencil format. The participants completed measures of emotional intelligence and occupational stress under the supervision of the authors of this study in a conference room. We obtained informed consent from all the participants. The average completion time for all the measures was 90 minutes.

2.2 Measurements

Emotional intelligence was measured with the Romanian version (Bar-On et al., 2009) of Bar-On Emotional Quotient Inventory (EQ-i) (Bar-On, 1997). The instrument comprises 133 items with a five-point scale, from "very seldom or not true of me" to "very often true of me or true of me'", and it measure five factors: intrapersonal, interpersonal, stress management, adaptability, and general mood, all being divided into 15 subscales. For the Romanian normative sample, the internal consistency was *Cronbach's alpha* = .89 for intrapersonal emotional intelligence, *Cronbach's alpha* = .79 for interpersonal emotional intelligence, *Cronbach's alpha* = .85 for stress management, *Cronbach's alpha* = .83 for adaptability, and *Cronbach's alpha* = .82 for general mood. The confirmatory factor analysis supports the theoretical structure of the measurement model (GFI = .971, AGFI = .892, NNFI = .956, CFI = .982).

Perceived stressors at work were measured with the Romanian version (Cartwright et al., 2017) of Organizational Stress Screening Tool (ASSET) (Cartwright & Cooper, 2002). It measures three general dimensions of stress: job perception, attitudes towards organization, and health, consisting of 63 items. The instrument has adequate construct and discriminant validity and it comprises a variety of stress sources, such as work-life balance, work relationships, overload, job security, pay and benefits, resources and communication, and control. For the Romanian normative sample, the internal consistency was *Cronbach's alpha* = .79 for work relationship, *Cronbach's alpha* = .57 for aspects of the job, *Cronbach's alpha* = .73 for overload, *Cronbach's alpha* = .72 for control, *Cronbach's alpha* = .63 for job security, *Cronbach's alpha* = .62 for resources and communication, and *Cronbach's alpha* = .71 for work-life balance.

3. Results

We analysed the data using IBM SPSS Statistics 23. Table 1 shows the minimum values, the maximum values, means, and standard deviations of the variables included in the study. There were no differences between the three regions regarding the perceived stressors (F = .14, p = .86 for work relationships; F = .86, p = .42 for work-life balance, F = 1.06, p = .34 for overload, F = .86, p = .42 for job security, F = .16, p = .85 for control, F = .43, p = .64 for resource and communication, F = 1.70, p = .18 for aspects of the job; F = .14, p = .86 for pay and benefits).

Table 1. Descriptive Statistics

Coefficient / Variable	Minimum	Maximum	Mean	Std. Deviation
Work relationships	8	42	22.70	8.56
Work-life balance	4	24	14.13	4.38
Overload	4	21	11.80	4.07
Job security	4	20	9.86	4.28
Control	4	23	12.67	4.56
Resource and communication	4	22	13.66	4.45
Aspects of the job	8	35	23.09	5.83
Pay and benefits	1	6	2.68	1.47
Emotional intelligence	355	630	522.07	49.28
Intrapersonal emotional intelligence	75	196	158.34	18.49
Interpersonal emotional intelligence	37	145	123.95	13.12
Stress management	39	86	67.18	10.23
Adaptability	69	127	101.91	11.91
General mood	42	104	70.28	8.87

Table 2 shows the zero-order correlations among study variables. There was a negative correlation between emotional intelligence and four of the eight perceived stressors (r = -.31, p = .00 for work relationships; r = -.28, p = .00 for work-life balance; r = -.33, p = .00 for resource and communication; r = -.27, p = .00 for aspects of the job).The extent to which work relationships were perceived as a stressor correlated negatively with intrapersonal emotional intelligence (r = -.24, p = .01), stress management (r = -.33, p = .00), adaptability (r = -.31, p = .00), and general mood (r = -.21, p = .02).The extent to which the lack of work-life balance was perceived as a stressor correlated negatively with intrapersonal emotional intelligence (r = -.25, p = .00), interpersonal emotional intelligence (r = -.19, p = .04), stress management (r = -.23, p = .01), adaptability (r = -.23, p = .01), and general mood (r = -.21, p = .02).The extent to which the lack of control at work was perceived as a stressor correlated negatively with stress management (r = -.28, p = .00) and adaptability (r = -.19, p = .03).The extent to which the lack of resources and poor communication were perceived as stressors correlated negatively with intrapersonal emotional intelligence (r = -.25, p = .00), stress management (r = -.41, p = .00), adaptability (r = -.34, p = .00), and general mood (r = -.19, p = .03).The extent to other aspects of the job were perceived as stressors correlated negatively with intrapersonal emotional intelligence (r = -.25, p = .00), interpersonal emotional intelligence (r = -.20, p = .03), adaptability (r = -.22, p = .02), and general mood (r = -.22, p = .01).

Table 2. Correlations among Study Variables

Emotional intelligence / Workplace stressors	Emotional intelligence	Intrapersonal	Interpersonal	Stress management	Adaptability	General mood
Work relationships	-.31**	-.24*	-.15	-.33*	-.31*	-.21*
Work-life balance	-.28**	-.25**	-.19*	-.23*	-.23*	-.21*
Overload	-.13	-.09	-.14	-.11	-.11	-.06
Job security	-.13	-.13	-.05	-.14	-.12	-.09
Control	-.15	-.09	-.02	-.28*	-.19*	-.11
Resource and communication	-.33**	-.25**	-.15	-.41*	-.34**	-.19*
Aspects of the job	-.27**	-.25**	-.20*	-.17	-.22*	-.22*
Pay and benefits	0	0	-.06	0	-.03	.03

Note: * $p < .05$, ** $p < .01$.*

A series of hierarchical multiple regressions were conducted with the four stressors (work relationships, work-life balance, resource and communication, aspects of the job) as the dependent variables. A four-stage hierarchical multiple regression was conducted in order to predict the extent to which work relationships were perceived as a stressor. Stress management was entered at stage one. A significant regression equation was found; $p < .01$, with an $R^2 = .11$. Adaptability was entered at stage two. Adding adaptability to the regression model did not explained additional variation. Intrapersonal emotional intelligence was entered at stage three. Adding intrapersonal emotional intelligence to the regression model did not explained additional variation. The final model also included general mood, but adding general mood to the regression model did not explained additional variation. Stress management explained 11% of the extent to which work relationships were perceived as a stressor. The results are presented in Table 3.

Table 3. Hierarchical Multiple Regression for Work Relationships

		Work relationships			
		β	R	R^2	ΔR^2
Step 1	Stress management	-.333	.333**	.111	.111
Step 2	Stress management	-.223	.351	.123	.012
	Adaptability	-.155			
Step 3	Stress management	-.227	.352	.124	.001
	Adaptability	-.122			
	Intrapersonal	-.040			
Step 4	Stress management	-.225	.353	.125	.001
	Adaptability	-.123			
	Intrapersonal	-.004			
	General mood	-.049			

Note: * $p < .05$, ** $p < .01$.*

A five-stage hierarchical multiple regression was conducted in order to predict the extent to which the lack of work-life balance was perceived as a stressor. Intrapersonal emotional intelligence was entered at stage one. A significant regression equation was found; $p < .01$, with an $R^2 = .064$. Stress management, adaptability, general mood, and interpersonal emotional

intelligence were added one at a time in the regression model. Adding these predictors to the regression model did not explained additional variation. Intrapersonal emotional intelligence accounted for 6.4% of the variance in the extent to which the lack of work-life balance was perceived as a stressor. The results are presented in Table 4.

Table 4. Hierarchical Multiple Regression for Work-Life Balance

		Work-life balance			
		β	*R*	R^2	ΔR^2
Step 1	Intrapersonal	-.252	.252**	.064	.064
Step 2	Intrapersonal	-.179	.283	.080	.016
	Stress management	-.148			
Step 3	Intrapersonal	-.186	.283	.080	.000
	Stress management	-.153			
	Adaptability	-.013			
Step 4	Intrapersonal	-.153	.284	.081	.001
	Stress management	-.151			
	Adaptability	-.012			
	General mood	-.044			
Step 5	Intrapersonal	-.127	.294	.087	.006
	Stress management	-.167			
	Adaptability	.046			
	General mood	-.042			
	Interpersonal	-.090			

Note: * $p < .05$, ** $p < .01$.*

A four-stage hierarchical multiple regression was conducted in order to predict the extent to which the lack of resources and poor communication were perceived as stressors. Stress management was entered at stage one. A significant regression equation was found; $p < .01$, with an $R^2 = .17$. Adaptability, intrapersonal emotional intelligence, and general mood were added one at a time in the regression model. Adding these predictors to the regression model did not explained additional variation. Stress management accounted for 17% of the variance in the extent to which the lack of resources and poor communication were perceived as stressors. The results are presented in Table 5.

Table 5. Hierarchical Multiple Regression for Resource & Communication

		Resource and communication			
		β	*R*	R^2	ΔR^2
Step 1	Stress management	-.411	.411**	.169	.169
Step 2	Stress management	-.332	.419	.176	.007
	Adaptability	-.112			
Step 3	Stress management	-.334	.419	.176	.000
	Adaptability	-.097			
	Intrapersonal	-.018			
Step 4	Stress management	-.334	.419	.176	.000
	Adaptability	-.097			
	Intrapersonal	-.024			
	General mood	-.007			

Note: * $p < .05$, ** $p < .01$.*

A four-stage hierarchical multiple regression was conducted in order to predict the extent to other aspects of the job were perceived as stressors. Intrapersonal emotional intelligence was entered at stage one. A significant regression equation was found; $p < .01$, with an $R^2 = .066$. Adaptability, general mood, and interpersonal emotional intelligence were added one at a time in the regression model. Adding these predictors to the regression model did not explained additional variation. Intrapersonal emotional intelligence accounted for 6.6% of the variance in the extent to other aspects of the job were perceived as stressors. The results are presented in Table 6.

Table 6. Hierarchical Multiple Regression for Aspects of the Job

		Aspects of the job			
		β	*R*	R^2	ΔR^2
Step 1	Intrapersonal	-.256	.256**	.066	.066
Step 2	Intrapersonal	-.208	.259	.067	.001
	Adaptability	-.063			
Step 3	Intrapersonal	-.150	.265	.070	.003
	Adaptability	-.062			
	General mood	-.078			
Step 4	Intrapersonal	-.120	.277	.077	.007
	Adaptability	-.039			
	General mood	-.077			
	Interpersonal	-.097			

Note: * $p < .05$, ** $p < .01$.*

4. Discussion

This study explored the relationship between physicians' emotional intelligence and their perceived level of the most significant stressors. As we hypothesized, we found that the physicians characterized by low levels of emotional intelligence perceived as stressors the following aspects of their job: work relationships, lack of work-family balance, lack of resources and communication, and other aspects of the job. In terms of predictive power, the following components of emotional intelligence were the most important in predicting various sources of stressors. Stress management predicted the extent to which work relationships were perceived as a stressor. Intrapersonal emotional intelligence predicted the extent to which the lack of work-family balance was perceived as a stressor. Stress management predicted the extent to which the lack of resources and poor communication were perceived as stressors. Finally, intrapersonal emotional intelligence predicted the extent to which other aspects of the job perceived were perceived as stressors.

These results are congruent with other research findings (Costea et al, 2020). Researchers (Ogińska-Bulik, 2005; Pau & Croucher, 2003) showed that high levels of emotional intelligence lead to low levels of perceived stress in the case of physicians and helps them to prevent possible

health problems (among the most common ones are burnout, anxiety, and depression). Relying on the job-demands and resources (JD-R) model (Bakker et al., 2014), we aim to explain these findings as follows: emotional intelligence is a personal resource that helps individuals solve social and interpersonal problems at work. Consequently, most studies identified the medical field as one of the most demanding and exhausting work environments (Ogińska-Bulik, 2005), because of the emergency duties that employees perform, the highly unpredictive nature of the events and situations, the high-stake decisions that employees should take, the high procedural work activities, etc. Therefore, physicians that are low in emotional intelligence perceive all these demands as exceeding their personal and organizational resources and, in work contexts that require interpersonal interaction, they experience a high level of stress. Contrary, physicians high in emotional intelligence are more resilient when dealing with such work demands and are more protected against stress.

We also found that there were no differences regarding the perceived stressors between the geographic regions considered (South-West, South-East, and North). This may be explained by the fact that the work environment and the job demands of the healthcare system may be partially similar in all of these regions from Romania.

Like any other study, the present research has certain limitations. Firstly, the cross-sectional design does not allow to interpret the results causally. Secondly, the study was based on self-reported measures from the medical personnel, which might raise concerns regarding the common-method bias (Podsakoff et al., 2003). Finally, the instruments were completed during a medical training program in which the medical staff participated voluntarily, therefore the possible self-selection of participants is another limitation.

Practical and theoretical implications can be derived from the findings of this paper. For example, some authors (Heffernan et al., 2010) argue that among central features of success in the medical field is empathy and compassion. The results of their study support a strong link between emotional intelligence, compassion, and empathy. Therefore, by evaluating and developing emotional intelligence, one can achieve an improvement in the empathy and compassion of physicians, characteristics on which their performance depends. Researchers (Stratton et al., 2005) tested the extent to which emotional intelligence is important for the acquisition of interpersonal clinical skills. The results revealed that central dimensions of emotional intelligence, such as attention to feelings and emotions, empathic concern, and forward-thinking, were positively associated with the communication skills required in clinicians' professional activities.

It has been shown that anxiety problems are becoming more common in the developed societies of the 21st century. One of the most affected professional sectors is the medical one due to the nature of the work and the emotional involvement of the employees. Consequently, it is normal for healthcare management specialists to be interested in ways to reduce stress and anxiety. Authors (Nooryan et al., 2012) tested the effectiveness of a training program focused on developing emotional intelligence in physicians to alleviate anxiety and stress symptoms. The results showed that physicians' scores on anxiety and stress decreased significantly following the intervention, supporting the efficiency of the development program.

5. Conclusions

This paper investigated the relationship between physicians' emotional intelligence and their perceived level of work-related stressors in the context of the Romanian health-care system. The study considered specialists from the field of neonatology, pediatrics, or anesthesiology. We found that emotional intelligence predicted the level of work-related stressors in these medical specializations. More specific, stress management explained 11% of the extent to which work relationships were perceived as a stressor. Intrapersonal emotional intelligence accounted for 6.4% of the variance in the extent to which the lack of work-life balance was perceived as a stressor. Stress management accounted for 17% of the variance in the extent to which the lack of resources and poor communication were perceived as stressors. Intrapersonal emotional intelligence accounted for 6.6% of the variance in the extent to other aspects of the job were perceived as stressors. Drawing on these findings, decision-makers may develop training programs to enhance the level of emotional intelligence with the aim of decreasing work-related stress in the medical field in Romania.

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