Moderating Effect of Emotional Intelligence on Occupational Stress and Burnout of Health Care Professionals

Swarnima Tiwari [1]
Deepak Bhagat [2]

Abstract

Front line healthcare professionals are often times confronted with tremendous stress resulting in emotional distress that impacts their success at work. It is understood that individuals with high emotional intelligence perceive potential stressors better and withstand stress. The present study intended to explore the emotional intelligence dimension of health care professionals in dealing with stressful situations. The study included frontline healthcare professionals (doctors and nurses) employed in the West Garo Hills District of Meghalaya. The results revealed that emotional intelligence was negatively correlated with occupational stress. Emotional intelligence was found to moderate perceived stress and burnout. The study revealed the presence of moderate to high levels of high occupational stress and emotional intelligence among doctors and nurses. It was also observed that emotional intelligence moderated perceived stress, emotional exhaustion, and depersonalization dimensions of burnout for both doctors and nurses. The above insights necessitate the requirement of well-developed training modules to improve the emotional intelligence of doctors and nurses. A well carved out training module on emotional intelligence will assist in decreasing the negative effects of job stress, coping up with the stress, and its related burnout faced by health care professionals.

Keywords : **emotional intelligence, occupational stress, perceived stress, burnout, healthcare**

JEL Classification Codes : I10, I12, I19

Paper Submission Date : February 5, 2020 ; Paper sent back for Revision : September 23, 2020 ; Paper Acceptance Date : November 8, 2020 ; Paper Published Online : April 15, 2021

The health sector is one of the most stressful sectors in the world and health care professionals are among the most stressed. In general, medical care experts are more prone to stress and burnout for the reason that they are accountable for human lives and their actions can seriously affect their patients. Stress at the workplace can negatively impact healthcare professionals by curbing their efficiency and affecting their health or family and social life (Koinis et al., 2015 ; Menon & Raithatha, 2012 ; Raj & Julius, 2018). Individuals with high emotional intelligence are known to better recognize and deal with potential stressors. However, early research in occupational stress and burnout of health care professionals focused mainly on the organizational and social predictors and ignored their emotional aspect. The present study intends to explore the emotional intelligence dimension of health care professionals in dealing with stressful situations.

[1] *Research Scholar,* Department of Management, North-Eastern Hill University, Tura Campus, Tura, Meghalaya - 794 002. (Email : swartiwari@gmail.com) ; ORCID iD : https://orcid.org/0000-0002-3522-4624
[2] *Assistant Professor (Corresponding Author),* Department of Management, North-Eastern Hill University, Tura Campus, Tura, Meghalaya - 794 002. (Email : dip19bhagat@gmail.com) ; ORCID iD : https://orcid.org/0000-0003-2720-4487

DOI : https://doi.org/10.17010/pijom/2021/v14i4/158724

Review of Literature

The scientific pieces of literature report that healthcare professionals face administrative pressures, patient health issues, lack of resources to meet patient needs, heavy workload including night shifts and sleeplessness, time stress, dealing with difficult or seriously ill patients, exposure to communicable diseases, lack of clarity regarding their roles, conflicts with colleagues or staffs, work-related belligerence or fear, less or limited number of staffs, different shifts of work, and professional self-doubt (Bhaga, 2010 ; Chou et al., 2014 ; Caruso, 2014). Excessive and long term stress results in burnout (Maslach & Leiter, 2016). Although the issue of burnout is found in all professions and occupations, one of the places where it is commonly visible is human service professions and especially the medical services aspect (Ashtari et al., 2009 ; Sinha, 2010). Burnout reduces the ability of health care professionals to deliver to the best of their abilities, leading to risks of medical errors (Montgomery et al., 2011). Stress and burnout are an inevitable problem in the healthcare industry. They may enhance depression (Koutsimani et al., 2019) and thus reduce job satisfaction of health care professionals (Sanders, 2013) in addition to disrupted individual relations and development of psychological agony. If left untreated, it can result in high absenteeism or quitting, and in some acute cases, even suicides are observed (Vukojević et al., 2015).

The perception of stress varies from person to person and context to context. A similar situation can be considered stressful by one person and satisfaction by another person. For example, a person considers workload, attending patients, and interpersonal relationships with colleagues under certain context as stressful, while for another person, the same experience under a certain context may be perceived as satisfaction (Wu et al., 2010). Managing, controlling, and expressing emotions are more relevant in health care than in any other setting as health care professionals are often confronted with highly emotional health services which concentrate on issues extending from acute to chronic, minor ill health or a perilous condition, which along with empathy requires high emotional connection of the health care professionals (McColl-Kennedy et al., 2017). Studies have also highlighted emotional intelligence as an important tool for healthcare professionals for reducing workplace stress (Tiwari & Bhagat, 2020). Researchers have likewise featured that it is emotional quotient that is more significant in one's everyday work execution and accomplishments than the intelligence quotient (Sangeetha & Natarajan, 2019). In the scholarly world, emotional intelligence is considered as the capacity which helps an individual to acknowledge, control, and utilize feelings and guide them towards viable behaviour. Emotional intelligence is fundamental as it influences the conduct of an individual significantly, which is a possible outcome of personality (Dhani & Sharma, 2017).

Research Gap

Historically, medical education exaggerated intelligence quotient estimations while limiting or even disregarding emotional intelligence (Weurlander et al., 2018 ; Willoughby & Boutwell, 2018). As a result, growing cases of burnout among health care professionals are observed. On most occasions, they not only find it difficult to deal with the emotional side of the patients, but they also find difficulty in dealing with people and staff of their organization (McColl-Kennedy et al., 2017). Importantly, earlier studies considered only organizational and social factors in explaining burnout (Lee & Ashforth, 1996 ; Zapf et al., 2001). However, recent studies have now started to consider the emotional aspect of explaining burnout (Zapf et al., 2001).

The present study attempts to study this emotional aspect of health care professionals in the West Garo Hills district of Meghalaya. The district has a serious shortage of specialized medical and para-medical personnel, facilities for infrastructure, drugs, etc. The hilly terrain and poor road infrastructure make the situation of the health sector scenario even worse. This makes life in the district more stressful for health care professionals. This calls for research on the emotional aspect of health care professionals and taking some appropriate initiatives

based on results. The present study attempts to fill this gap by developing insights on the following objectives, which are discussed in the next section.

Objectives of the Study

The present study proposes :

(1) To measure occupational stress and emotional intelligence of health care professionals.

(2) To study the moderating effects of emotional intelligence on perceived stress, occupational stress, and burnout of health care professionals.

Hypotheses

The main hypotheses of the study are :

- **H01 :** The different groups of healthcare professionals do not differ on occupational stress.
- **Ha1 :** The different groups of healthcare professionals differ on occupational stress.
- **H02 :** The different groups of healthcare professionals do not differ in emotional intelligence.
- **Ha2 :** The different groups of healthcare professionals differ in emotional intelligence.
- **H03 :** There is no interaction effect of emotional intelligence and perceived stress on occupational stress and burnout.
- **Ha3 :** There is an interaction effect of emotional intelligence and perceived stress on occupational stress and burnout.

Research Methodology

Study Area

The study was conducted in West Garo Hills district in Garo Hills of Meghalaya. It is one of the largest districts in Garo Hills.

Coverage and Population and Period of the Study

Though health care professionals may include medical and para-medical professionals like doctors, nurses (general), midwives, health visitors, auxiliary nurses/midwives, and pharmacists, the present study included only doctors and nurses because they are the most important as well as the first point of contact with a health care system for providing treatment, care, and assistance to the patients. Necessary data were collected from 131 doctors and 258 nurses working in four government and two private hospitals, community health centers, and primary health centers in the West Garo Hills district of Meghalaya. The primary data were collected from January – June 2019.

Measurement Instruments and Variables

The following measurements were used in the present study :

(1) Emotional Intelligence (EI) : Emotional Quotient Test of Singh and Chadha (2006) was used to measure emotional intelligence. This instrument covers emotional sensitivity, emotional maturity, and emotional competency. This instrument has 22 questions. Despite being one of the newly developed scales of EI, The Emotional Quotient Test is one of the most common tests used for assessing the emotional intelligence of the Indian population (Sharma & Nathawat, 2013). The Emotional Quotient test has a test-retest reliability of 0.94 ; split-half reliability of 0.89. The validity was reported as 0.89 (Singh & Chadha, 2006). The current study's full-scale reliability was found to be 0.840.

(2) Occupational Stress Index (OSI) : The OSI, an additive strain model, places job stressors at the focal point that are essential to the cardiovascular system (Belkić, 1995). Along with other features of stress, the OSI was an add-in from the Job Strain Model (Karasek Jr., 1979). In contrast to the constructs of Siegrist (1991, 1996), OSI is based on cognitive ergonomics as well as brain research, which studies how the human being is affected by work pressure. Under load, high demand, strictness, extrinsic time pressure, aversive/noxious exposures, threat-avoidant vigilance/disaster potential, and conflict/uncertainty are the dimensions of stress under OSI. In the technical manual, the overall scale reliability of the questionnaire is reported to be 0.89. In the current study, the full-scale reliability was found to be 0.926.

(3) The Oldenburg Burnout Inventory (OLBI) : The Oldenburg Burnout Inventory (OLBI) was originally proposed to address the shortcomings of the Maslach Burnout Inventory - General Survey (MBI-GS) (Demerouti & Nachreiner, 1998 ; Demerouti et al., 2001). The OLBI evaluates the disengagement and exhaustion dimension of burnout with 16 items which are both positive and negative. The OLBI is a psychometrically strong tool that can be used to assess burnout (Reis et al., 2015). The reliability figure for the full scale as obtained by the Cronbach's alpha was found to be 0.953.

(4) Perceived Stress : Perceived stress, that is, individuals' appraisal of stress in their life was measured using the Perceived Stress Scale (PSS) by Cohen et al. (1983). This scale is one of the most recognized and frequently used scales for measuring individuals' perception of stress in health care research (Cohen et al., 1983 ; Karam et al., 2012). It is based on a 5-point Likert scale format. The cumulative score is calculated by summing responses. The test has a reliability of 0.78. Cronbach's alpha was appropriate in the present analysis (0.882).

Administration of Tests

To collect data for the present study, the subjects were contacted after seeking permission from the medical superintendent or their department heads. The purpose of the study was told and their willingness to participate in the research was taken. The subjects were tested during their free time. All four tests were administered on two groups of healthcare professionals, that is, doctors and nursing staff in selected hospitals/CHC/PHC/UHC. The general testing conditions were satisfactory and the atmosphere was uniform. Efforts were made to get maximum cooperation of the respondents, and they were encouraged to respond in the way they behaved in a real-life setting. To get their full cooperation, a good relationship was formed with the respondents. They were told, at the very beginning, that the survey was a part of a research study and the data gathered would not be used for any professional or healthcare evaluation. The confidentiality of the results and information provided by them

was assured. It was also told, if they wanted to, they would be intimated about their scores on different behavioural measures.

Though there was no time breaking point to complete any of the tests, the respondents were approached to finish the test as ahead of schedule as could be expected under the circumstances. The guidelines and administrative procedure were the same for all the subjects and well as per that portrayed by the test creators. The tests were performed in the following order for all the respondents: Emotional Intelligence, Occupational Stress Index, Perceived Stress Scale, and Oldenburg Burnout Inventory.

Scoring

All four tests were scored by utilizing their separate keys/scoring guides. Emotional intelligence was scored on three psychological dimensions – emotional competency, maturity, and sensitivity but their values were added and taken all in all in reflecting the total EQ Score. Occupational Stress Index was scored on seven dimensions but their values were added and taken all in all in depicting the overall Total Occupational Stress Index. The Oldenburg Burnout Inventory was scored on a 4-point scale (1= *strongly agree* ; 2 = *agree* ; 3 = *disagree*, and 4 = *strongly disagree*). The test was scored separately for Emotional Exhaustion and Depersonalization by adding individual item scores on the item of each area. The perceived stress scale was scored on a 5-point scale.

Statistical Analyses

To accomplish the goals of the investigation, various statistical analyses were conducted. The significance of the mean difference across different professional groups and gender was analyzed with ANOVA. Regressions of burnout on occupational stress and emotional intelligence were computed by employing multiple regression analyses. The moderating effect of emotional stress on occupational stress and burnout was studied with the help of moderated regression.

Analysis and Results

Occupational Stress of Health Care Professionals

Table 1 describes the mean, standard deviation, and the relation between occupational stress sources and demographic variables for the sample under investigation. A significantly high level of occupational stress is observed among doctors and nurses. Doctors and nurses are observed to differ significantly on occupational stress. The mean OSI score for nurses is high as compared to doctors. Females are found to experience more stress

Table 1. ***Demographic Profile and Occupational Stress Scores of Health Care Professionals***

Personal Variables	Category	*N*	Mean	*SD*	*P*
Occupational Groups	Doctor	131	76.49	9.78	0.000
	Nurse	258	80.47	8.16	
Gender	Male	71	76.00	9.51	0.027
	Female	318	79.83	8.65	
Age (in years)	20 – 30	131	82.30	8.25	0.000
	30 – 40	132	79.24	7.97	
	40 – 50	92	75.63	8.25	
	50 – 60	34	71.93	10.41	

Marital Status	Married	262	78.58	9.04	0.005
	Single	116	80.82	7.95	
	Widow	5	80.55	13.79	
	Separated	6	69.29	10.80	
Living Arrangement	Living with family	257	78.30	8.96	0.012
	Living with one or more people	65	81.02	7.54	
	Living with a partner only	17	84.31	8.90	
	Living alone	50	79.21	9.70	
Working Experience	0 – 5 yrs	137	82.30	8.50	0.000
	5 – 10 yrs	146	78.76	8.47	
	10 – 15 yrs	65	76.64	7.38	
	15 – 20 yrs	29	72.21	10.79	
	20 – 25 yrs	8	75.50	9.43	
	Above 25	4	82.13	2.17	

Note. Results based on ANOVA and *t*-test.

(*M* = 79.83 ; *SD* = 8.65 ; *p*-value is .002) as compared to male healthcare professionals (*M* = 76.00 ; *SD* = 9.51). The results also highlight a difference in the mean scores of respondents based on the age group they belonged to. It is found that respondents in the age group of 20 – 30 years experienced high stress (*M* = 82.30 ; *SD* = 8.25) followed by age group 30 – 40 years (*M* = 79.24 ; *SD* = 7.97), 40 – 50 years (*M* = 75.63 ; *SD* = 8.25), and 50 – 60 years (*M* = 71.93 ; *SD* = 10.41). It is also found that there exists a difference based on the marital status of the respondents (*p*-value is .005) and working experience (*p*-value is .000) ; whereas, the living arrangement of the respondents shows a non-significant difference (*p*-value is 0.012). The socio-demographic variables are found to significantly influence the occupational stress of healthcare professionals.

Emotional Intelligence of Health Care Professionals

Figures 1 and 2 highlight the categorized emotional intelligence scores of doctors and nurses, respectively. The

Figure 1. ***Categorical Emotional Intelligence for Doctors***

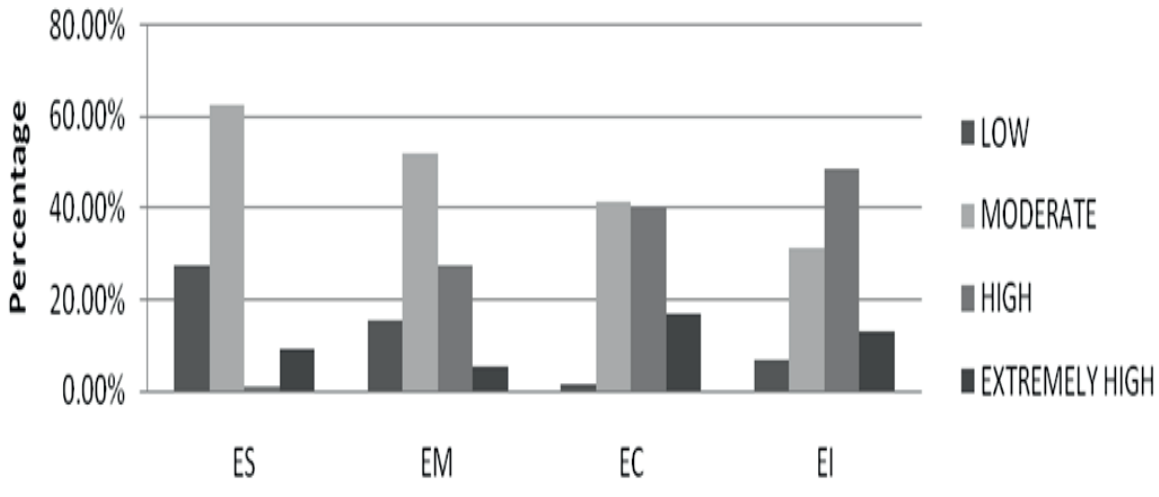
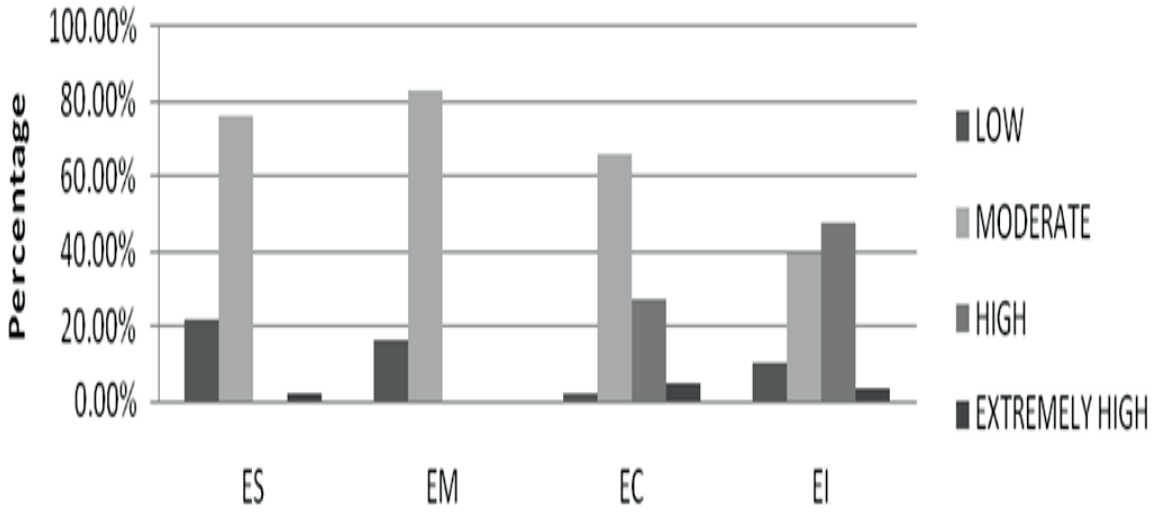


Figure 2. ***Categorical Emotional Intelligence for Nurses***

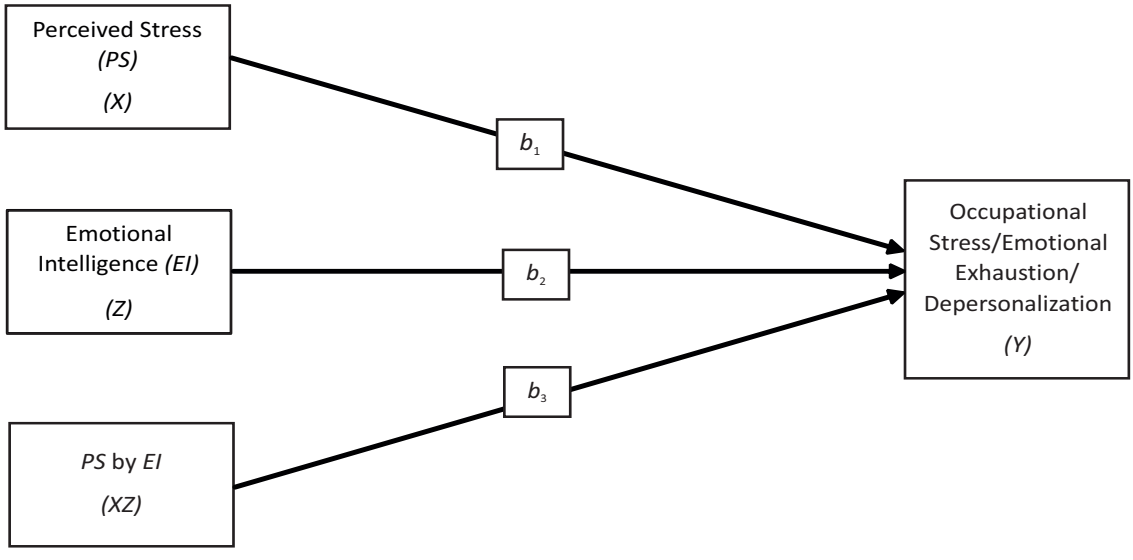


majority of the respondents were found to have moderate emotional sensitivity and emotional maturity, moderate emotional competency, and high emotional intelligence.

Interaction Effect of Emotional Intelligence and Perceived Stress on Occupational Stress and Burnout

Moderated regression analysis was conducted to study the moderating effect of emotional intelligence and perceived stress on occupational stress and burnout. For the moderation effect to be present, the impact of one independent variable should be dependent on the level of another independent variable (Aiken & West, 1991 ;

Figure 3. ***Moderating Effect of Emotional Intelligence and Perceived Stress on Occupational Stress and Burnout***



Lewis-Beck & Michael, 1980). To execute the moderating effects, the product of scores on the independent and moderating variable is calculated by multiplying perceived stress with emotional intelligence. Figure 3 depicts the model representation of the moderation analysis.

In the first regression analysis for doctors, occupational stress is introduced as a dependent variable. The independent variables are perceived stress, emotional intelligence, and PSEI (Table 2). The independent variables are found to explain 96 % of the variance in the dependent variable ($R^2 = 0.969$). Table 2 reveals that emotional intelligence ($\beta = -.978, t = -17.643, p < .001$) contributes significantly in predicting occupational stress.

Next regression analysis is done for nurses. Occupational stress is entered as a dependent variable. The independent variables are perceived stress, emotional intelligence, and PSEI (Table 3). The independent variables are found to explain 96 % of the variance in the dependent variable ($R^2 = 0.965$). It can be observed from Table 3

Table 2. ***Moderated Regression Analysis for Doctors (DV : Occupational Stress)***

Model Summary						
Model	***R***	***R* Square**	**Adjusted *R* Square**	**Std. Error of the Estimate**	***F* Statistics**	
					F	**Sig.**
1	.985[a]	.969	.969	1.73286	1339.017	.000

Coefficients					
Model	**Unstandardized Coefficients**		**Standardized Coefficients**	***t***	**Sig.**
	B	**Std. Error**	**Beta**		
(Constant)	143.483	4.558		31.481	.000
Perceived Stress	–.032	.209	–.015	–.153	.878
Emotional Intelligence	–.209	.012	–.978	–17.643	.000
PS*EI	.000	.001	.038	.620	.536

a. Predictors : (Constant), *PS*EI,* Emotional Intelligence, Perceived Stress.

b. Dependent Variable : Occupational Stress.

Table 3. ***Moderated Regression Analysis for Nurses (DV : Occupational Stress)***

Model Summary						
Model	***R***	***R* Square**	**Adjusted *R* Square**	**Std. Error of the Estimate**	***F***	**Sig.**
1	.982[a]	.965	.964	1.54572	2302.328	.000

Coefficients					
Model	**Unstandardized Coefficients**		**Standardized Coefficients**	***t***	**Sig.**
	B	**Std. Error**	**Beta**		
(Constant)	141.157	3.856		36.606	.000
Perceived Stress	.262	.143	.121	1.838	.067
Emotional Intelligence	–.198	.010	–.916	–20.585	.000
PS*EI	–.001	.000	–.069	–2.096	.037

a. Predictors : (Constant), *PS*EI,* Emotional Intelligence, Perceived Stress.

b. Dependent Variable : Occupational Stress.

that emotional intelligence ($\beta = -.916$, $t = -20.585$, $p < .001$) and *PS*EI* ($\beta = -.069$, $t = -2.096$, $p < .005$) contribute significantly in predicting occupational stress.

Table 4 shows the results for moderated regression for the dependent variable : emotional exhaustion for doctors. The independent variables : PS, EI, and PS*EI are found to explain 84% of the variance in the dependent variable, that is, emotional exhaustion ($R^2 = 0.842$). From the table, it can also be observed that perceived stress ($\beta = .942$, $t = 4.282$, $p<.001$) significantly and positively influences the emotional exhaustion of doctors. Emotional intelligence ($\beta = -.283$, $t = -2.249$, $p < .005$) and *PS*EI* ($\beta = -.371$, $t = -2.695$, $p < .005$) are found to significantly and negatively influence emotional exhaustion of doctors.

Table 5 shows the results for moderated regression for the dependent variable : emotional exhaustion for nurses. The independent variables : PS, EI, and PS*EI are found to explain 91% of the variance in the dependent

Table 4. ***Moderated Regression Analysis for Doctors (DV : Emotional Exhaustion)***

Model Summary						
Model	***R***	***R* Square**	**Adjusted *R* Square**	**Std. Error of the Estimate**	***F***	**Sig.**
1	.917[a]	.842	.838	1.73168	225.171	.000

Coefficients					
Model	**Unstandardized Coefficients**		**Standardized Coefficients**	***t***	**Sig.**
	B	**Std. Error**	**Beta**		
(Constant)	19.936	4.555		4.377	.000
Perceived Stress	.895	.209	.942	4.282	.000
Emotional Intelligence	–.027	.012	–.283	–2.249	.026
PS*EI	–.002	.001	–.371	–2.695	.008

a. Predictors : (Constant), *PS*EI,* Emotional Intelligence, Perceived Stress.

b. Dependent Variable : Emotional Exhaustion.

Table 5. ***Moderated Regression Analysis for Nurses (DV : Emotional Exhaustion)***

Model Summary						
Model	***R***	***R* Square**	**Adjusted *R* Square**	**Std. Error of the Estimate**	***F***	**Sig.**
1	.956[a]	.913	.912	1.032	891.983	0.000

Coefficients					
Model	**Unstandardized Coefficients**		**Standardized Coefficients**	***t***	**Sig.**
	B	**Std. Error**	**Beta**		
(Constant)	26.074	2.574		10.131	.000
Perceived Stress	1.052	.095	1.134	11.041	.000
Emotional Intelligence	–.029	.006	–.312	–4.492	.000
PS*EI	–.003	.000	–.657	–12.718	.000

a. Predictors : (Constant), *PS*EI,* Emotional Intelligence, Perceived Stress.

b. Dependent Variable : Emotional Exhaustion.

variable, that is, emotional exhaustion ($R^2 = 0.913$). From the table, it can also be observed that perceived stress ($\beta = 1.134$, $t = 11.041$, $p < .001$) significantly and positively influences the emotional exhaustion of nurses. Emotional intelligence ($\beta = –.312$, $t = –4.492$, $p < .001$) and *PS*EI* ($\beta = –.657$, $t = –12.718$, $p < .001$) are found to significantly and negatively influence emotional exhaustion of nurses.

Table 6 shows the results for moderated regression for the dependent variable : depersonalization for doctors. The independent variables : PS, EI, and PS*EI are found to explain 86% of the variance in the dependent variable, that is, depersonalization ($R^2 = 0.857$). From the table, it can also be observed that perceived stress ($\beta = .719$, $t = 3.441$, $p < .001$) significantly and positively influences the depersonalization of doctors. Emotional intelligence ($\beta = –.446$, $t = –3.731$, $p < .001$) and *PS*EI* ($\beta = –.281$, $t = –2.147$, $p < .005$) are found to significantly and negatively influence depersonalization of doctors.

Table 6. ***Results of Moderated Regression Analysis for Doctors (DV : Depersonalization)***

Model Summary						
Model	***R***	***R* Square**	**Adjusted *R* Square**	**Std. Error of the Estimate**	***F***	**Sig.**
1	.926[a]	.857	.854	1.672	254.661	.000

Coefficients					
Model	**Unstandardized Coefficients**		**Standardized Coefficients**	***t***	**Sig.**
	B	**Std. Error**	**Beta**		
(Constant)	27.625	4.397		6.282	.000
Perceived Stress	.694	.202	.719	3.441	.001
Emotional Intelligence	–.043	.011	–.446	–3.731	.000
PS*EI	–.001	.001	–.281	–2.147	.034

a. Predictors : (Constant), *PS*EI,* Emotional Intelligence, Perceived Stress.

b. Dependent Variable : Depersonalization.

Table 7. ***Results of Moderated Regression Analysis for Nurses (DV : Depersonalization)***

Model Summary						
Model	***R***	***R* Square**	**Adjusted *R* Square**	**Std. Error of the Estimate**	***F***	**Sig.**
1	.956[a]	.913	.912	1.03166	891.983	.000

Coefficients					
Model	**Unstandardized Coefficients**		**Standardized Coefficients**	***t***	**Sig.**
	B	**Std. Error**	**Beta**		
(Constant)	26.074	2.574		10.131	.000
Perceived Stress	1.052	.095	1.134	11.041	.000
Emotional Intelligence	–.029	.006	–.312	–4.492	.000
PS*EI	–.003	.000	–.657	–12.718	.000

a. Predictors : (Constant), *PS*EI,* Emotional Intelligence, Perceived Stress.

b. Dependent Variable : Depersonalization.

Table 7 shows the results for moderated regression for the dependent variable : depersonalization for nurses. The independent variables PS, EI, and PS*EI are found to explain 91% of the variance in the dependent variable, that is, depersonalization (R^2 = 0.913). From the table, it can also be observed that perceived stress (β = 1.134, t = 11.041, p < .001) significantly and positively influences the depersonalization of nurses. The emotional intelligence (β = –.312, t = –4.492, p < .001) and *PS*EI* (β = –.657, t = –12.718, p < .001) are found to significantly and negatively influence depersonalization of nurses.

The results also prove that EI and PS*EI negatively influence occupational stress, emotional exhaustion, and depersonalization of health care professionals. In other words, the results highlight the negative contribution of emotional intelligence and moderator on emotional exhaustion and depersonalization dimensions of burnout. Controlling emotions makes individuals healthy probably because they can recognize and evaluate their emotional conditions and know how to communicate their feelings and manage their frame of mind (Sihag, 2015).

Discussion

The results from this study show that healthcare professionals (doctors, nurses) differ significantly on the dimensions of occupational stress and emotional intelligence (H01 and H02 are rejected and Ha1 and Ha2 are accepted). High occupational stress is observed in doctors and nurses. Nurses are reported to experience high stress as compared to doctors as they are always confronted with emotional interactions with patients and their attendants. Moreover, they also have to deal with their emotional reactions to situations where they deal with the suffering and death of patients. Apart from all these, heavy workload including night shifts and sleeplessness, conflicts with colleagues or staff, limited number of staff, emergency cases, and detailed documentation increases their vulnerability to stress, and thus, nurses tend to experience higher stress as compared to doctors. Sihag (2015) and Brand (2007) also reported that nurses experienced higher levels of occupational stress.

When occupational stress is compared with demographic variables, it is observed that females faced more stress as compared to male healthcare professionals. The results also highlight a difference based on the age group they belonged to. It is also found that there exists a difference based on the marital status of the respondents, and the number of dependents and working experience ; whereas, the living arrangement of the respondents did not affect the occupational stress of the healthcare professionals.

Regarding the healthcare professionals' emotional intelligence scores, the study uncovers that most of the respondents had moderate emotional sensitivity, emotional maturity, and emotional competency, however, they had high emotional intelligence. Results also highlight that doctors were better at managing emotions than nurses and doctors scored higher in total emotional intelligence score as compared to nurses.

Further in the study, moderation analysis shows that emotional intelligence moderates occupational stress and burnout. It is also observed that emotional intelligence moderates perceived stress, emotional exhaustion, and depersonalization dimensions of burnout for both doctors and nurses (H03 is rejected and Ha3 is accepted). The results prove the moderating effect of emotional intelligence on burnout development among healthcare professionals working in stressful situations. Many studies have reported similar findings where emotional intelligence has been reported to moderate occupational stress and burnout (Ciarrochi et al., 2002 ; Darolia & Darolia, 2005 ; Eltarhuni, 2016).

Conclusion

The study concludes that healthcare professionals (doctors, nurses) differ significantly on the dimensions of occupational stress, emotional intelligence, perceived stress, and burnout. Emotional intelligence is found to moderate perceived stress, emotional exhaustion, and depersonalization dimensions of burnout for both doctors

and nurses. The results prove the moderating effect of emotional intelligence on burnout development among healthcare professionals working in stressful situations. The above insights necessitate the requirement of well-developed training modules to improve the EI of doctors and nurses. A well carved out training module on EI can help alleviate the burden and associated burnout that health care workers face.

Implications

Theoretical Implications

The insights drawn from the above results and discussion may supplement the existing literature on emotional intelligence and occupational stress. The study provides insights into the cognitive ergonomics dimensions of occupational stress rather than sociological theory which was ignored by earlier studies. This study can be possibly one of the first few which tries to supplement emotional intelligence and its dimensions with cognitive ergonomics dimensions of occupational stress in predicting perceived stress and burnout in healthcare professionals.

Managerial Implications

While the relationship between stress and burnout has been assessed by various researchers, relatively few have given priority to the emotional competencies in the medical field. The study recommends the inclusion of emotional competencies in the syllabus of health care professionals. The study also suggests the use of appropriate stress intervention strategies to prevent occupational stress and burnout among doctors and nurses. To develop a satisfied workforce, the recruitment process could be redesigned keeping in mind the above findings. Besides, emotional intelligence can be considered as quite possibly the main factor in choosing and utilizing medical care experts and in occupational advancements during their services.

Recommendations

The study recommends the creation of educational and instructional classes for the development and promotion of the well-being of healthcare professionals that should be included from the beginning in the formal academic curriculum and training of healthcare professionals. This will facilitate them in developing their emotional intelligence, which will improve their ability to manage their emotions, which in turn will help them to survive in stressful work environments. It will likewise help the healthcare professionals in managing and controlling emotions which will eventually help in presiding anger, stress, and anxiety and will direct balanced relationship and better work and family atmosphere.

Limitations of the Study and Scope for Further Research

Like any other study, the present study also has its limitations. The less number of private hospitals/nursing homes in the district limits the study as no comparison can be drawn between government and private healthcare settings. Moreover, out of the total number of nurses employed in the private hospitals in the district, the majority of the nurses were either nursing students or interns or were working on a contractual basis, which decreased the sample size of nurses as contractual employees, interns, or students were not considered for the study. Another important limitation is the limited number of departments/wards in healthcare settings in the district. Even though the general demand and stress are equally challenging for the healthcare professionals, but the working environment

in various wards/departments like oncology, ICU, CCU is more challenging and stressful for the healthcare professionals. The analysis between different groups would have generated more insights, however, less number staff available in different departments acted as a limitation.

The study can be considered as a basis for future research focusing on cognitive ergonomics dimensions of occupational stress rather than sociological theory which was ignored by earlier studies. A replica of the work can be done with a larger sample comparing different types of healthcare setting like CHCs, PHCs, and district hospitals separately as different types of healthcare settings have different work environment and constrains and stressors which result in different stress levels among healthcare professionals employed in the different healthcare settings.

Authors' Contribution

To conduct the research analysis, Swarnima Tiwari developed the study conception, design, and collected the data. Dr. Deepak Bhagat tested the methodological methods, verified the analytical methods, and supervised the study. Swarnima Tiwari interpreted the results and drafted the manuscript in consultation with Dr. Deepak Bhagat.

Conflict of Interest

The authors certify that they have no affiliations with or involvement in any organization or entity with any financial interest, or non-financial interest in the subject matter, or materials discussed in this manuscript.

Funding Acknowledgement

The authors received no financial support for the research, authorship, and/or for the publication of this article.

References

Aiken, L. S., & West, S. G. (1991). *Multiple regression : Testing and interpreting interactions.* Sage Publications.

Ashtari, Z., Farhady, Y., & Khodaee, M. R. (2009). Relationship between job burnout and work performance in a sample of Iranian mental health staff. *African Journal of Psychiatry, 12*(1), 71–74. https://doi.org/10.4314/ajpsy.v12i1.30282

Belkić, K. (1995). *Psychosocial factors and Myocardial Ischemia among women* (Report to the Swedish Medical Research Council, Stockholm), Stockholm.

Bhaga, T. (2010). *The impact of working conditions on the productivity of nursing staff in the midwife obstetrical unit of Pretoria West Hospital* (Unpublished Master's Dissertation). University of Pretoria, South Africa. https://repository.up.ac.za/bitstream/handle/2263/27211/dissertation_2010.pdf?sequence=1&isAllowed=y

Brand, T. (2007). *An exploration of the relationship between burnout, occupational stress and emotional intelligence in the nursing industry* (Unpublished Doctoral Dissertation). University of Stellenbosch, South Africa.

Caruso, C. C. (2014). Negative impacts of shift work and long work hours. *Rehabilitation Nursing, 39*(1), 16–25. https://doi.org/10.1002/rnj.107

Chou, L. - P., Li, C. - Y., & Hu, S. C. (2014). Job stress and burnout in hospital employees : Comparisons of different medical professions in a regional hospital in Taiwan. *BMJ Open, 4*(2), 1–7. https://doi.org/10.1136/bmjopen-2013-004185

Ciarrochi, J., Deane, F. P., & Anderson, S. (2002). Emotional intelligence moderates the relationship between stress and mental health. *Personality and Individual Differences, 32*(2), 197–209. https://doi.org/10.1016/S0191-8869(01)00012-5

Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior, 24*(4), 385–396. https://doi.org/10.2307/2136404

Darolia, C. R., & Darolia, S. (2005). Emotional intelligence and coping with stress. *Anxiety, Stress & Depression, 20*(1), 16–27.

Demerouti, E., & Nachreiner, F. (1998). The specificity of burnout in human services : Fact or artifact ? *Journal of Work Science, 52,* 82–89.

Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands-resources model of burnout. *Journal of Applied Psychology, 86*(3), 499–512. https://psycnet.apa.org/doi/10.1037/0021-9010.86.3.499

Dhani, P., & Sharma, T. (2017). Emotional intelligence and personality : Their relationship in the Indian context. *Prabandhan : Indian Journal of Management, 10*(9), 39–52. https://doi.org/10.17010/pijom/2017/v10i9/118241

Eltarhuni, A. (2016). Job stress sources among doctors and nurses working in emergency departments in public hospitals. *IOSR Journal of Nursing and Health Science, 5*(6), 84–88. https://www.iosrjournals.org/iosr-jnhs/papers/vol5-issue6/Version-6/L0506068488.pdf

Karam, F., Bérard, A., Sheehy, O., Huneau, M.- C., Briggs, G., Chambers, C., Einarson, A., Johnson, D., Kao, K., Koren, G., Martin, B., Polifka, J. E., Riordan, S. H., Roth, M., Lavigne, S. V., Wolfe, L., & OTIS Research Committee. (2012). Reliability and validity of the 4 - item perceived stress scale among pregnant women : Results from the OTIS antidepressants study. *Research in Nursing & Health, 35*(4), 363–375. https://doi.org/10.1002/nur.21482

Karasek Jr., R. A. (1979). Job demands, job decision latitude, and mental strain: Implications for job redesign. *Administrative Science Quarterly, 24*(2), 285–308. https://doi.org/10.2307/2392498

Koinis, A., Giannou, V., Drantaki, V., Angelaina, S., Stratou, E., & Saridi, M. (2015). The impact of healthcare workers job environment on their mental-emotional health. Coping strategies: The case of a local general hospital. *Health Psychology Research, 3*(1), 12–17. https://doi.org/10.4081/hpr.2015.1984

Koutsimani, P., Montgomery, A., & Georganta, K. (2019). The relationship between burnout, depression, and anxiety: A systematic review and meta-analysis. *Frontiers in Psychology, 10,* Article 284, 1–19. https://doi.org/10.3389/fpsyg.2019.00284

Lee, R. T., & Ashforth, B. E. (1996). A meta-analytic examination of the correlates of the three dimensions of job burnout. *Journal of Applied Psychology, 81*(2), 123–133. https://doi.org/10.1037/0021-9010.81.2.123

Lewis-Beck, & Michael, S. (1980). *Quantitative applications in the social sciences.* Sage Publications.

Maslach, C., & Leiter, M. P. (2016). Understanding the burnout experience: Recent research and its implications for psychiatry. *World Psychiatry, 15*(2), 103–111. https://doi.org/10.1002/wps.20311

McColl-Kennedy, J. R., Danaher, T. S., Gallan, A. S., Orsingher, C., Lervik-Olsen, L., & Verma, R. (2017). How do you feel today ? Managing patient emotions during health care experiences to enhance well-being. *Journal of Business Research, 79,* 247 – 259. https://doi.org/10.1016/j.jbusres.2017.03.022

Menon, S., & Raithatha, M. (2012). Occupational stress : An analytical study of stress among Dabbawalas of Mumbai Tiffin Suppliers Association. *Prabandhan : Indian Journal of Management, 5*(1), 47–54. https://doi.org/10.17010/pijom/2012/v5i1/60117

Montgomery, A., Panagopoulou, E., Kehoe, I., & Valkanos, E. (2011). Connecting organisational culture and quality of care in the hospital : Is job burnout the missing link? *Journal of Health Organization and Management, 25*(1), 108–123. http://dx.doi.org/10.1108/14777261111116851

Raj, I. A., & Julius, S. (2018). Causes and consequences of work stress and coping behaviour of employees : An analysis. *Prabandhan : Indian Journal of Management, 11*(3), 24–38. https://doi.org/10.17010/pijom/2018/v11i3/122075

Reis, D., Xanthopoulou, D., & Tsaousis, I. (2015). Measuring job and academic burnout with the Oldenburg Burnout Inventory (OLBI) : Factorial invariance across samples and countries. *Burnout Research, 2*(1), 8–18. https://doi.org/10.1016/j.burn.2014.11.001

Sanders, M. (2013). *Existential depression: How to recognize and cure life-related sadness in gifted people: Self-Help Manual* (1st ed.). Create Space Independent Publishing Platform.

Sangeetha, D., & Natarajan, M. L. (2019). Unleashing the power of self-esteem: Focus on emotional intelligence and self–efficacy. *Prabandhan : Indian Journal of Management, 12*(7), 7–21. https://doi.org/10.17010/pijom/2019/v12i7/145582

Sharma, N., & Nathawat, S. S. (2013). Emotional intelligence as a predictor of academic performance among nursing students. *Scholarly Research Journal for Interdisciplinary Studies, 2*(8), 399–407.

Siegrist, J. (1991). Contributions of sociology to the prediction of heart disease and their implications for public health. *European Journal of Public Health, 1*(1), 10–21. https://doi.org/10.1093/eurpub/1.1.10

Siegrist, J. (1996). Adverse health effects of high-effort/low-reward conditions. *Journal of Occupational Health Psychology, 1*(1), 27–41. https://doi.org/ 10.1037//1076-8998.1.1.27

Sihag, A. (2015). *Coping with occupational stress and burnout in healthcare professionals moderating effect of emotional intelligence* (Unpublished Doctoral Thesis). Kurukshetra University, Haryana, India.

Singh, D., & Chadha, N. K. (2006). *Emotional intelligence at work : A professional guide* (1st ed.). Sage Publications.

Sinha, V. (2010). Job burnout, individual coping styles and well-being at work: A comparative study of men and women employees of a private enterprise. *Prabandhan : Indian Journal of Management, 3*(4), 45–50. https://doi.org/10.17010/pijom/2010/v3i4/60931

Tiwari, S. & Bhagat, D. (2020). The role of emotional intelligence on healthcare professionals' occupation stress and burnout. *International Journal of Current Research and Review, 12*(24), 187–196. http://dx.doi.org/10.31782/IJCRR.2020.122437

Vukojević, M., Antunović, A., & Petrov, B. (2015). Difference in the prevalence of burnout syndrome in preclinical and clinical teaching doctors of Mostar School of Medicine. *Liječnički Vjesnik, 137*(5 – 6), 150 – 155.

Weurlander, M., Lönn, A., Seeberger, A., Broberger, E., Hult, H., & Wernerson, A. (2018). How do medical and nursing students experience emotional challenges during clinical placements ? *International Journal of Medical Education, 9,* 74 – 82. https://doi.org/10.5116/ijme.5a88.1f80

Willoughby, E., & Boutwell, B. (2018). Importance of intelligence and emotional intelligence for physicians. *JAMA: The Journal of the American Medical Association, 320*(2), 205. https://doi.org/10.1001/jama.2018.6278

Wu, H., Chi, T. - S., Chen, L., Wang, L., & Jin, Y. - P. (2010). Occupational stress among hospital nurses: Cross - sectional survey. *Journal of Advanced Nursing, 66*(3), 627– 634. https://doi.org/10.1111/j.1365-2648.2009.05203.x

Zapf, D., Seifert, C., Schmutte, B., Mertini, H., & Holz, M. (2001). Emotion work and job stressors and their effects on burnout. *Psychology & Health, 16*(5), 527 – 545. https://doi.org/10.1080/08870440108405525

About the Authors

Swarnima Tiwari is a Research Scholar in the Department of Management, North-Eastern Hill University, Tura Campus, Meghalaya. She has presented more than eight papers in national and international conferences and has four publications in recognized journals.

Dr. Deepak Bhagat is an Assistant Professor in the Department of Management, North-Eastern Hill University, Tura Campus, Meghalaya. The author is a PhD from Gauhati University. He has presented papers in more than 35 national and international conferences and published 30 papers in reputed journals. He has six books to his credit.