



# An assessment of emotional intelligence among health science postgraduates in a deemed university in Mysuru

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## ABSTRACT

### Introduction

Emotional intelligence (EI) is the ability to monitor one's decisions and regulate them efficiently. It is found that higher EI contributed positively to a doctor–patient relationship, increased empathy, communication skills, stress management, organisational commitment and teamwork. The current study was conducted in this still unexplored field to find out role of work-related perceived stress on burnout and influence of emotions among health science postgraduates of Mysore, India

### Methodology

It was a cross sectional study done for a duration of one year (Jan 2021–dec 2021). Probability proportion to size has been done and a total of 217 post graduates were studied. The study was done among the health science graduates of JSS University, Mysuru. A standardised Schutte self-assessment questionnaire was used to collect data. Analysis was done with mean, standard deviation and percentages. Associations were done using the chi square test.

### Results

The mean age of the participants was 24.17±2.713. The mean Emotional intelligence of the participants was 123.87±11.17. 44.2% of the participants belonged to medicine from the first year. Only 27.6% reported any self-reported stress. There was a significant association between mothers' occupation and fathers' education with EI score of the participants.

### Conclusion

We can conclude that Emotional intelligence is higher among medical and nursing specialties, partly due to the fact that they might have better communication and deeper experiences with the patients and people around them. There can be training which can be implemented on a regular basis for the post graduates to improve their emotional intelligence.

**Keywords:** *Emotional intelligence, psychology, postgraduates, health science, self-analysis*

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## INTRODUCTION

Emotional intelligence (EI) has been defined as “the ability to monitor one’s own and other people’s emotions, to discriminate between different emotions and label them appropriately, and to use emotional information to guide thinking and behaviour”<sup>1</sup>. Emotionally intelligent doctors are better able to perceive the needs of the patient and are then able to address issues if any arise. In today’s world, where patient satisfaction is one of the most important criteria for a successful medical practice, emotional intelligence of doctors plays a vital role<sup>1</sup>. It is also very important when it comes to dealing with the everyday cases in the hospital, especially since being a doctor and a healthcare personnel means a lot of teamwork and dealing with the other person’s emotions. It does require a high level of understanding and cooperation especially between students and the teachers.<sup>2</sup> To understand what an emotion is, we need to understand that it is an essential element of one’s personality, in both personal as well as professional lives, it plays a significant role in every-day lives, showing his or her internal feelings in the most effective way. They compel people to do something exemplary and provide help in their relationships. They are vitally involved in every activity and reaction of human beings. Slowly it is gaining traction as an important predictor for the students activities.<sup>3-4</sup> It is found that higher EI contributed positively to a doctor–patient relationship, increased empathy, communication skills, stress management, organisational commitment and teamwork. It is probable that a person’s perception of stress and her/his capacity to deal with a stressful situation may affect burnout. The inherent ability of a person to relate with and understand others, while adapting and coping with the surroundings to successfully deal with environmental demands is called emotional intelligence(EI). It is an important factor in mental health as well as effective practice. Hence, emotional exhaustion as a component of burnout supports the concept that EI influences burnout<sup>5</sup>. In this regard EI becomes a very important aspect for the medical students, in that their decision making is much affected by the emotional intelligence score. It is developed by practice and awareness of the emotions pertaining to that situation. It helps them become better administrators and better communicators. The uncertainty is lessened rather

than totally removed and it helps to take decision apt for the circumstances.<sup>6</sup> This also holds true with their management skills as well, EI is an indicator of the level of coordination they can work with, their level of management skills with others. It would be better if the medical students are trained to manage themselves better and the situations around them. Skills such as motivation, empathy and team building are the skills which are associated with EI. These skills are not available in the medical textbooks but have to be learnt and understood by the students themselves. Here EI can play as an effective indicator for the students to improve on themselves.<sup>7</sup>

Hence, students who have a very good motivation will display an interest in learning, they maintain a very diligent course to learn and excel in the activities. Students who are serious will always be self-motivated and will work towards their goal. Motivation will lead to certain thoughts and feelings and students can take up activities to grow on their emotional intelligence(EI). They take their own initiatives and their decisions and learn to cope up with their failures.<sup>8</sup> When it comes to individual doctors who are required to spend considerable time in intensive involvement with patients and other health professionals, it is important to understand how EI is associated with burnout, a syndrome of emotional exhaustion, depersonalization and a reduced sense of personal accomplishment<sup>9</sup>. This exhaustion can manifest after prolonged time due to continuous exposure to work and stress which will lead to an increase in degree of dehumanisation and dissatisfaction. Doctors experience burnout on a regular basis and they tend to be prone to heart diseases later on in life. While all these risk factors play a role, it can be handled with good awareness and practice. This comes with development of good Emotional stability in the individuals.<sup>10</sup> Individuals with high levels of emotional intelligence(EI) may be protected from developing burnout, as they possess more effective coping strategies that enable them to be more resilient and manage stress better. Therefore, developing the EI skills of physicians-in-training may help prevent burnout and optimize their overall wellness. This is developed over time by their personal ambitions, and their drive to do well in their work. Therefore student will participate in activities that will improve their well-being and make them

better persons<sup>11-16</sup>In recent times, medical students have noted decline in empathy, altruism and self-confidence, which is leading them to have a negative attitude towards academic training and a lot of self-doubt in their abilities and an increase in their cynicism and a feeling of victimization. And over the course of training if they are guided properly they eventually end up being more cynical. This is a regular occurrence among the medical students. The concept of mental health among doctors just like everybody else comes with the same concept that it is not merely absence of mental illness but also includes our emotional well-being and giving space for the variations in the emotions and functioning. There has to be an equivalence between mental health and functioning, leaving room for positive emotions and positive functioning.<sup>17-19</sup> Added to this breaking news frequently covers for encounters between resident doctors and patients' attendants often leading to unwanted incidents even inside institutional premises and continuous underlying apprehension in the minds of both the sides. The oft-stated reason behind it is pointed toward resource and infrastructure-poor settings to shoulder with excessive workload. Despite doctor-patient unrest is a burning issue today and this often leads to deadly consequences for both, health setting caregivers' burnout, and their perceived stress play an important role behind it. Hence, the current study was conducted in this still unexplored field to find out the role of work-related perceived stress on burnout and influence of emotions among resident doctors of Mysore, India<sup>20</sup>. With the study we wanted to determine emotional intelligence among health science postgraduates in JSS Mahavidyapeetha and the association between emotional intelligence and socio-demographic factors among health science postgraduates in Deemed university in Mysuru.

### Methodology

This is a Cross-sectional study done for One year from Jan 2022 to Dec 2022. PPS (probability proportion to size) sampling technique has been done among different specialities and overall sample size was determined. Assuming Emotional intelligence among study participants to be 124±12.8 (Rajakrishna Ravikumar et al) with an absolute precision of 1.8%, alpha level of 5% and a confidence interval of 95%, 217 post graduates were studied. This study is done in Mysore. Required sample size for the

study is obtained based on PPS sampling. Study was done after obtaining necessary permission. After obtaining consent from residents data was collected from them. Data pertaining to the age, type of family, birth order, number of siblings, socio-economic status is to be collected from them through pretested semi-structured open questionnaires. Information regarding their emotional intelligence was obtained through Schutte self-report emotional intelligence questionnaire. A total of two visits or phone contact was done for collecting the information. Health science postgraduates pursuing training from all specialty departments from JSS Mahavidyapeetha. The study was done in all constituent and applicable colleges from JSSAHER. It included JSS Medical College, JSS college of Pharmacy, JSS college of Nursing, JSS Hospital, JSS dental college, JSS college of Physiotherapy. All the colleges were situated in Mysuru city, Karnataka.

#### a) Inclusion criteria

Health science postgraduates across all departments of speciality and who were willing to give consent.

#### b) Exclusion criteria

Health science postgraduates who were having major psychiatric disorders, drug dependence or who are not available to contact. We have used a semi-structured questionnaire, with two sections. The first section is the socio-demographic details which includes the following variables age, gender, marital status, type of current residence, current living arrangement, type of family, fathers and mothers education and occupation, family income, their previous work experience, their speciality, year of study, work hours per week, number of night duties, emergency duties, their addictions, any traumatic event in past, any self-reported psychiatric illness or stress. All the above details were filled with the multiple or single choice options. The second section was the Schutte self-assessment scale, this is a standardised questionnaire which includes questions on how the students are able to handle everyday situations. Each question has a scale ranging from strongly disagree to strongly agree and are scored from 1 to 5 respectively except questions 5, 28 and 33 which are reverse scored. There are a total of 33 questions. Scores range from 33 to 165 with higher scores more is the emotional intelligence. For the study we have divided the scores to low (33-55) moderate (56-110) and high (111-165). Data obtained

will be entered in MS Excel spread sheet followed by analysis using SPSS version 22 (licensed to JSS Medical College). The demographic characteristics such as age, gender, occupation etc. will be represented using arithmetic mean, standard

deviation and percentages. The possible associations between the selected demographic variables (age, gender, education) will be found using chi square test.

## Results

Table-1: Socio-demographic variables among study participants

Age group	Frequency	%
20-25	152	70
26-30	60	28
31-35	4	1.6
36-40	1	0.4
Total	217	100
Gender		
Female	136	62.7
Male	81	37.3
Total	217	100
Marital status		
Married	20	9.2
Unmarried	197	90.8
Total	217	100
Type of family		
Nuclear	186	85.7
Joint	13	6.0
Extended nuclear	16	7.4
Others	2	1.0
Total	217	100
5)Current living arrangement	<b>Frequency</b>	<b>%</b>
With family	40	18.4
With roommate	128	59.0
Alone	49	22.6
Total	217	100
6)Father's Education	<b>Frequency</b>	<b>%</b>
Illiterate	2	0.9
Primary	5	2.3
Middle school	3	1.4
High school	19	8.8
Post-high school diploma	18	8.3
Graduation	104	47.9
Post-graduation	66	30.4
Total	217	100

<b>7)Mother's Education</b>	<b>Frequency</b>	<b>%</b>
Illiterate	2	0.9
Primary	4	1.8
Middle school	4	1.8
High school	41	18.9
Post-high school diploma	12	5.5
Graduation	97	44.7
Post-graduation	57	26.3
<b>Total</b>	<b>217</b>	<b>100</b>
<b>8)Fathers occupation</b>	<b>Frequency</b>	<b>%</b>
Unemployed	1	0.5
Unskilled	3	1.4
Semiskilled	3	1.4
Skilled	14	6.5
Clerical/Shop owner/farmer	38	17.5
Semi-professional	7	3.2
Professional	151	69.6
<b>Total</b>	<b>217</b>	<b>100</b>
<b>9)Mothers occupation</b>		
Unemployed	4	1.8
Unskilled	2	0.9
Semi-skilled	0	0
Skilled	136	62.7
Clerical/shop owner/ farmer	1	0.5
Semi-professional	70	32.3
Professional	4	1.8
<b>Total</b>	<b>217</b>	<b>100</b>

Data was collected from 217 participants and participants' age group ranges from 20 to 37 years with a mean age of  $24.17 \pm 2.713$ . 152(70%) of the students belonged to the age group 20-25 years and 60(28%) belonged to age group 26-35. The majority of the respondents were females (62.7%) when compared to males (37.3%). Majority of the participants were unmarried (90.8%). The majority of the participants in the current study were from nuclear families (85.7%) and a very few (6%) of them are belong to a joint family. Majority of the participants in the current study were living in a rented houses (61.1%) followed by Hostels (25.5%) and in houses (13%). The majority of the participants in the current study are living with roommates (59%) and only 18.4% of them are living with their families. 47.9% of the participants mentioned that

their fathers completed graduation followed by post-graduation (30.4%), high school diploma (8.3%), high school (8.8%), and very few are illiterate (0.9%). 44.7% of the participants in the current study mentioned that their mothers completed graduation followed by post-graduation (26.3%), high school (18.9%), high school diploma (5.5%), and very few are illiterate (0.9%). Father's occupations showed that the majority of them are professionals (69.6%) and very few are unemployed (0.5%). Participants in the current study reveal mothers' occupational status that 62.7% of them are skilled and 32.3% of them are semi professionals. The majority of the participants in the current study have a family income of greater than 20000 rupees per month and a very few (0.5%) have a family income from 1000-2999 and less than 1000.

Table 2: Working Specialty of the current study population

The Speciality you are working	Frequency	%
Medicine and allied sciences	96	44.2
Dental and Allied sciences	19	8.8
Pharmacy and allied sciences	72	33.2
Nursing	1	0.5
Physiotherapy	6	2.8
Ayurveda and allied sciences	23	10.6
Total	217	100

Majority of study participants belong to medicine (44.2%) followed by pharmacy(33.2%).

Other self-reported variables include:

In the present study majority of the participants are in 1<sup>st</sup> year (48.4%) followed by 2<sup>nd</sup> year (44.2%). 43.3% of the participants mentioned that they are having 48-96 hours of work per week and very few (15.7%) of them are having >96 hours of work per week. The majority of the respondents (93.1%) in the current study don't have any night duties in a week. 93.1% of the respondents mentioned that they don't have any emergencies in a week, while 0.9% of them mentioned they have 2-3 emergencies. 82.5% of the respondents mentioned that they don't have any habit of alcohol, smoking, and substance abuse while 17.5% of them are said to have it. Out of which 9.2% of them are habituated to alcohol, 2.8% of them are smokers and 6.5% are both smokers and alcoholics.

The majority (71.8%) of the participants in the current study did not experience a traumatic event and only 28.1% of them experienced it. Out of 28.1%, the majority of them experienced traumatic events in the form of relationship break-up (11.1%) and followed by family loss (7.4%), accidents (4.6%), financial loss (2.8%), and health conditions (2.3%). There were only 7.8% of participants who self-reported having a psychiatric illness in the current study, and the rest did not. 7.8% of those reporting psychiatric illness had depression (3.7%), followed by anxiety (2.3%), stress (0.5%), and work environment (0.9%). In this study, 27.6% of participants self-reported their stress levels. Participants cited relationship problems and work-related stress as the reasons for their stress. The emotional intelligence score in the current study ranges from 91 to 157 with a mean of 123.87 ±11.17. The Majority of the participants in the current study had a high emotional intelligence score (63.6%) and 35.4% of the participants had a moderate EI score.

Table-3: Association between sociodemographic variables and Emotional intelligence of the study participants

Sociodemographic variables		EI stages				Chi-square value	p-value
		Moderate EI Score (78-121)		High EI score (122-165)			
		Frequency	%	Frequency	%		
Gender	Female	49	62.0	87	63.0	0.22	0.81
	Male	30	38.0	51	37.0		
Marital status	Married	8	10.1	12	8.7	0.122	0.726
	Unmarried	71	89.9	126	91.3		
Type of current	Rent	55	69.6	77	56.2	4.993	0.172
	Hostel	14	17.7	41	29.9		

residence	Home	10	12.7	18	13.1		
	Others	0	0.0	1	0.7		
Current living arrangement	With family	17	21.5	23	16.7	1.19	0.442
	With roommate	43	54.4	85	61.6		
	Alone	19	24.1	30	21.7		
Type of family	Nuclear	68	86.1	118	85.5	3.692	0.44
	Joint family	3	3.8	10	7.2		
	Extended nuclear	7	8.9	9	6.5		
Fathers' education	Others	0	0.0	1	0.7		
	Illiterate	1		1	0.7		
	Complete primary	3		2	1.4		
	Complete middle school	1		2	1.4	7.628	0.026
	Completed high school	2		17	12.3		
Mothers' education	Post-high school diploma	8		10	7.2		
	Completed graduation	38		66	47.8		
	Completed post-graduation	26		40	29.0		
	Illiterate	0		2	1.4		
	Complete primary	1		3	2.2		
Mothers' education	Complete middle school	1		3	2.2	3.595	0.73
	Completed high school	15		26	18.8		

Father s' occupa tion	Post- high school diploma	5	6	7	5.1		
	Comple ted graduati on	32	40	65	47.1		
	Comple ted post- graduati on	25	31	32	23.2		
	Skilled	8	10	6	4.3		
	Semiskill ed	2	2	1	0.7	9.14	0.166
	Unskilled	2	2	1	0.7		
	Professio nals	54	58	97	70.3		
	Semi- professio nal	1	1	6	4.3		
	Clerical/s hop owner/fa rmer	11	13	27	19.6		
	Unemplo yed	1	1	0	0.0		
Mother s' occupa tion	Skilled	40	50	96	69.6		
	Semiskill ed	0	0	0	0.0	11.06	0.04
	Unskilled	1	1	1	0.7		
	Professio nals	3	3	1	0.7		
	Semi- professio	33	41	37	26.8		



Family income	Frequency		Percentage		Chi-square	p-value
	Count	%	Count	%		
Unemployed	1	0.8	1	0.8	0.0	
Clerical/shop owner/farmer	1	0.8	1	0.8	0.0	
>20000	62	81.2	62	81.2	10.70	0.009
10000-19999	15	19.2	15	19.2	5	
7500-9999	1	1.3	1	1.3	5.8	
5000-7499	0	0.0	0	0.0	1.4	
3000-4999	0	0.0	0	0.0	1.4	
1000-2999	1	1.3	1	1.3	0.0	
<1000	0	0.0	0	0.0	0.7	

Values are expressed as frequency, percentages, and chi-square values. the p-value is from the chi-square test and a p-value of less than 0.05 is considered statistically significant.

Association between socio-demographic variables and emotional intelligence score showed that the father's education is associated with emotional intelligence score with a chi-square value of 7.628 and p-value of 0.02 which shows statistical significance. The mother's occupation shows an association with emotional intelligence score with a chi-square value of 11.064 and a p-value of 0.04. Others like family income are also associated with emotional intelligence (chi-square value 10.70 and p-value 0.009). Other demographic variables didn't show a significant association with emotional intelligence scores.

### Discussion

Our study in terms of participants showed that the

majority of the respondents were females comprising 62.7% and males 37.2% of the population, which was in line with another study done by Satterfield J et al where 40.4% were males and 59.6% were females. The higher response of the females in both these studies may be attributed to the availability of more females in the colleges at the time and the overall strength.<sup>21-22</sup> Mean age of the participants were in the range of 24.9+- for men and 23.5+- for women in a study done by Papanagnou et al which corresponds to our study findings where the mean of the participants were 24.17+- 2.713. The average is same since all medical students usually have the same course duration and hence they will be of similar age groups at that point of time<sup>23-25</sup>

In this study 90.8% of the women are unmarried,

while a study done by Vlachou et al showed that 58.5% of the participants were single and 41.5% were married. This is because the participants ie the practicing doctors on the referred study were of a higher age group than the ones in this study as around 24% were more than 30 years of age.<sup>26-28</sup> When it came to work hours per week, our study showed that 41% worked for less than 48 hours and 43.30% worked for 48-96 hours and 15.70% for >96hours. A similar study shows 18% of the participants had <40 hours and 81.8% worked more than 40 hours. This insinuates the fact that healthcare professionals have a heavy work load.<sup>29</sup> When it came to Mothers and Fathers occupation, it showed that 47.9% of the fathers had completed graduation and 44.7% of the mothers completed graduation. Though we did not find any association between the parents' education and Emotional intelligence, the mean EI among the participants were good. This is highlighted in a study by Picon N et al which that factors like high level of employment and a high level of education were enhancing ones sociability skills and Emotional intelligence.<sup>30-32</sup> Our study showed that 71.8% did not experience any traumatic events, out of the people who experienced 11.1% had relationship breakup and family loss(7.4%). There were 7.8% of participants who self-reported a psychiatric illness and the rest did not. Maximum was depression 3.7%, anxiety 2.3%, work environment and stress. Another study by BiBi S et al showed doctors seek most help for depression, anxiety and post traumatic events.<sup>33</sup> Our study showed that the majority of participants had a high emotional intelligence score (63.6%) and the rest had moderate scores with the mean EI being 123.87+-11.17. A similar study done by Jha A et al shows that the mean Emotional intelligence among the resident

doctors was 96+-5.24. There is a slight difference considering the fact that sample size in the below study was less than that of our study and it was taken from a specific speciality whereas the study done by us took residents from various specialities.<sup>34</sup> Our study shows that there is an association between emotional intelligence and the mothers occupation and fathers occupation. A positive correlation existed between the occupation of parents and emotional intelligence. There were also no significant differences between the specialities found in our study, the emotional intelligence was high across all specialities and there was no significant association between their specialities and their emotional intelligence. Another study showed that there was a significant relationship between age and emotional intelligence but there was no relationship with the specialities and other variables. There are many factors which the institute and doctors can take heed of for the improvement of their emotional intelligence. Persistent education, time management skills, ability to cope with the difficulties have all been influenced by the social settings as wells as the learning environment, which may not have been fully explored in the study but has been shown in study by Halian et al<sup>35</sup> Hence from the findings, we can conclude that Emotional intelligence is higher among medical and nursing specialties, partly due to the fact that they might have better communication and deeper experiences with the patients and people around them. They also have undergone extensive training for many years to be better at understanding people and their emotions. Though there are many gaps which can be addressed. There can be training which can be implemented on a regular basis for the post graduates to improve their emotional intelligence.

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