

## A study of emotional intelligence, perceived stress and coping in final year medical undergraduates

Amit Nagdive<sup>1</sup>, PB Behere<sup>2</sup>, Kanika Kumar<sup>3\*</sup>, Rouchelle Fernandes<sup>4</sup>, Sachchhil Sonone<sup>5</sup>

<sup>1</sup>Assistant Professor, <sup>2</sup>Vice Chancellor, <sup>3</sup>Psychiatrist, <sup>4</sup>Intern, <sup>5</sup>Clinical Psychologist, Dept. of Psychiatry, <sup>1,4,5</sup>JNMC, DMIMS, Sawangi, Maharashtra, <sup>2</sup>D. Y. Patil University, Kolhapur, Maharashtra, <sup>3</sup>Punjab Medical Civil Services, Ludhiana, Punjab, India

\*Corresponding Author: Kanika Kumar

Email: [kkumar2390@gmail.com](mailto:kkumar2390@gmail.com)

### Abstract

The term “Emotional Intelligence” (EI) describes the “ability to monitor one’s own and others’ feelings and emotions, to discriminate between them and to use the information to guide one’s thinking and actions. It helps people to cope better and therefore is required in medical students to cope with everyday stresses. This study was conducted with an aim to study emotional intelligence, perceived stress and coping in final year medical undergraduates. Evaluation of emotional intelligence, perceived stress, general health, and ways of coping was done. This study concludes that emotional intelligence had a negative correlation with perceived and mental stress, maladaptive coping behaviour (escape avoidance) and a positive correlation with adaptive coping style (Planful problem solving). Higher emotional intelligence is associated with better quality of health.

**Keywords:** Emotional Intelligence, Stress, Coping, Skills.

### Introduction

“There is within the human heart a quality of intelligence which has been known to surpass that attributed to the human mind.” — Aberjhani

The term “Emotional Intelligence” (EI) describes the “ability to monitor one’s own and others’ feelings and emotions, to discriminate between them and to use the information to guide one’s thinking and actions.”<sup>1</sup> As feelings take precedence over thoughts in making decisions, the emotional mind is believed to be faster than the rational mind.<sup>2</sup>

As Goleman suggested, EI includes ability to solve emotional problems, capacity to accept reality, flexibility, and ability to regulate and alter the affective reactions of stress and crisis.<sup>3</sup> It has been seen in previous studies that the persons with high emotional intelligence can better recognize potential stressors, can use emotions in coping with problem, as far as they cope in better way with negative emotions evoking in stressful situation.<sup>4</sup>

Medicine is a profession with a lot of stress and social demands. Therefore, students in these fields have to cope with stress related to burden and excessive workload from clinical practices during their education.<sup>5</sup>

### Aim

To study emotional intelligence, coping mechanisms and perceived stress in final year undergraduate medical students.

### Materials and Methods

This was a cross sectional type of study conducted on Final year undergraduate medical students in a rural medical college in Maharashtra.

A brief introductory session explaining the concept of EI and coping strategies, need for the study and the procedure of self-administration of scales, were provided to all participants. Written consent was taken. Ethical

clearance for the study was obtained from Institutional Ethical Committee.

A semi structured proforma was used for socio-demographic data. The Emotional Intelligence Scale used was developed by Schutte.<sup>6</sup> It is a 33-item scale with a five-point Likert-type scale. Scores ranged from 33-165. Perceived Stress Scale (PSS) was used to assess the perceived stress levels of the individuals pertaining to different situations during the last month.<sup>7</sup> Each of the 10-items consists of a five point Likert scale (0 = never to 4 = very often), and the total score ranged from 0 to 40, where higher total scores indicates a higher level of perceived stress. GHQ 30 was used as a self reported proforma for screening physical ailments. Ways to coping questionnaire- It contains 66 questions and to determine the predominant methods used for coping, total score for each of the subscales divided according to the different ways of coping is calculated. If a person is scoring high in a particular subscale, it means person uses that way of coping more as compared to the other ones.<sup>9</sup>

### Subjects

A total number of 119 Students belonging to both sexes, who were in final year MBBS course and gave consent were included in the study through purposive sampling method. Students suffering from any diagnosed mental and physical disorder were excluded. Their age range was 21-23 years.

### Statistical analysis

Analysis was done using SPSS version 21 software. Pearson’s correlation and t test were used to assess the relationship between various factors and correlation between variables. P value < 0.05 was taken as significant.

### Results

The sample consisted of 119 participants. The mean age was 21.56 years. Sample had 78 female (65.5%) and 41 (34.4%)

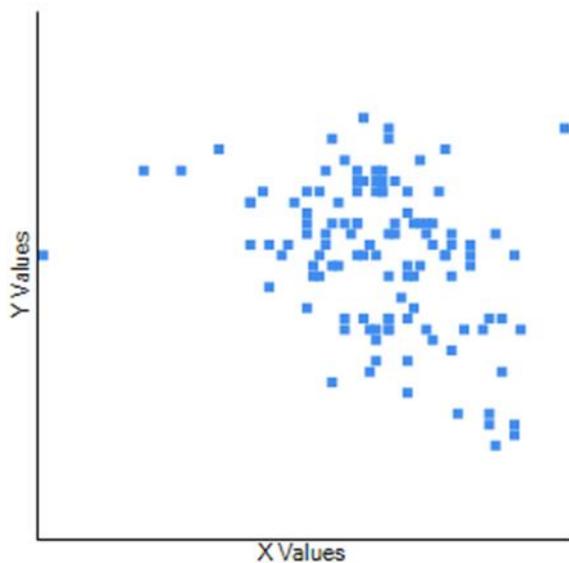
male participants. The mean scores of the sample on Emotional Intelligence, Perceived Stress, GHQ-30 and Coping styles are presented in table-1. The mean EI score was 118 and the most used coping mechanism was planful problem solving.

**Table 1:** The mean scores of emotional intelligence, perceived stress and coping styles

	Mean
Emotional Intelligence	118.57
Perceived Stress Scores	26.8991597
GHQ-30	23.8
Coping mechanism-Distancing	11.0336134
Coping mechanism-Accepting Responsibility	8.87
Coping mechanism- Confrontative coping	11.21
Coping mechanism-Self control	11.61
Coping mechanism-Seeking social support	10.51
Coping Mechanism-Planful Problem Solving	13.23
Coping Mechanism-Positive Reappraisal	11.94
Coping Mechanism-Escape avoidance	11.70

Correlation was seen between Emotional intelligence and perceived stress scores. A negative correlation ( $r = -0.3635$ ) was seen between the two and it came out to be statistically significant ( $p = 0.000026$ ). (Graph 1)

**Graph 1:** The correlation between emotional intelligence and perceived stress



Y values- Perceived stress score; X values- Emotional intelligence score

Correlation between various coping mechanisms and Emotional intelligence was done and it was seen that a statistically significant positive correlation ( $r = 0.3647$ ,  $p = 4.5E-05$ ) was present between emotional intelligence and planful problem solving. Also, statistically significant negative correlation ( $r = -0.8589$ ,  $p = 0.00001$ ) was seen

between emotional intelligence and escape avoidance (Table 2).

**Table 2:** Correlation between Coping mechanisms and Emotional intelligence

Coping mechanisms	Mean	R	P value
Distancing	11.03	0.11	0.21
Accepting Responsibility	8.87	-0.10	0.24
Confrontative coping	11.21	-0.0253	0.78
Self-control	11.61	0.02	0.78
Seeking social support	10.51	0.01	0.86
Planful Problem Solving	13.23	0.36	4.5E-05
Positive Reappraisal	11.94	0.11	0.23
Escape avoidance	11.70	-0.8589	0.00001

A comparison was made between emotional intelligence of students whose parents were doctors and those from other professions. There was no significant difference seen ( $t = 0.868$ ,  $p = 0.38$ ). A comparison was also made between emotional intelligence values of males and females. The difference was statistically non-significant ( $t = 1.38$ ,  $p = 0.08$ ). Another comparison was made between emotional intelligence scores and scores obtained on GHQ-30. There was a negative correlation seen which was statistically significant ( $r = -0.52$ ,  $p < 0.00001$ ) (Table 3)

**Table 3:** Table depicting pearson correlation between emotional intelligence and GHQ-30 scores

<p><i>X Values (Emotional Intelligence)</i>  <math>\sum = 14111</math>                      Mean = 118.58  <math>\sum(X - M_x)^2 = SS_x = 18800.992</math></p> <p><i>Y Values (GHQ30)</i>  <math>\sum = 2841</math>                      Mean = 23.874  <math>\sum(Y - M_y)^2 = SS_y = 15385.109</math></p> <p><i>X and Y Combined</i>  <math>N = 119</math>  <math>\sum(X - M_x)(Y - M_y) = -8874.303</math></p> <p><i>R Calculation</i>  <math>r = \frac{\sum((X - M_x)(Y - M_y))}{\sqrt{(SS_x)(SS_y)}}</math></p> <p><math>r = -8874.303 / \sqrt{(18800.992)(15385.109)} = -0.5218</math></p>	<p>X: X Values                      Y: Y Values  <math>M_x</math>: Mean of X Values  <math>M_y</math>: Mean of Y Values  <math>X - M_x</math> &amp; <math>Y - M_y</math>: Deviation scores  <math>(X - M_x)^2</math> &amp; <math>(Y - M_y)^2</math>: Deviation Squared  <math>(X - M_x)(Y - M_y)</math>: Product of Deviation Scores</p>
--	--

**Discussion**

This study emphasizes the relevance of the concept of Emotional Intelligence in daily life, as it empowers people to have superior self-control, ability to motivate themselves, manage and express emotions appropriately, be assertive yet sympathetic and caring.

Thus EI is important for an individual, more so for doctors. Doctors are expected to be kind, caring, affectionate, have unbiased empathetic approach, adequate

self-control and maintain cordial relation with one's colleagues.

In this study it was seen that emotional intelligence had a negative correlation with perceived stress which means higher a person scores on the emotional intelligence, lesser a person perceives stress. This has been evident in previous studies as well.<sup>10-13</sup>

Matthew and Zeidner<sup>14</sup> suggest that successful coping with stressful encounters is central to emotional intelligence. Successful coping forms the very bedrock of good mental and physical health.

In our study we found that there was a positive correlation between emotional intelligence and use of planful problem solving which in turn points to the association that persons who use planful problem solving as a coping mechanism had higher scores on emotional intelligence scale. This has been established previously also that high EI individuals employ coping strategies more effectively i.e. use problem-focused coping in situations.<sup>15</sup>

Escape avoidance way of coping was negatively correlated with emotional intelligence scores owing to the fact established in previous studies also that Emotional Intelligence was related positively with adaptive coping styles and negatively associated with maladaptive coping styles (escape avoidance, distancing).<sup>16,17</sup>

It has been seen in previous studies that socio demographic profile also had an impact on levels of emotional intelligence. In our study we also compared some parameters. While comparing between males and females no difference was found between the levels of emotional intelligence. This is not in concordance with the previous studies where it was seen that females score more as compared to males.<sup>18-21</sup> This can be attributed to the reason that it was a self-reporting scale and every student wanted show their best behaviour. Another comparison was made between students coming from a medico background and those from a non-medico background. No significant difference was seen in the levels of emotional intelligence in these categories.

We found a significant negative correlation between the general health components and emotional intelligence, such that the lower the general health means score (indicating greater levels of general health), the higher the emotional intelligence. This was also seen in previous studies that better emotional quotient makes quality of life better.<sup>22-24</sup>

## Conclusion

Therefore, we can conclude by stating that emotional intelligence has a negative correlation with perceived stress, mental stress, maladaptive coping behaviour (escape avoidance) and a positive correlation with adaptive coping style (planful problem solving). Furthermore, higher emotional intelligence is associated with better quality of health.

## Strengths and limitations

Our study was unique in analysing many factors responsible for affecting emotional intelligence together. The limitations include response bias and a small sample size.

## Recommendations

Further studies should be done to assess other factors affecting emotional intelligence and the medical students should be taught more adaptive coping skills to handle their stress skilfully.

## References

1. Mayer JD, Salovey P. What is emotional intelligence. Emotional development and emotional intelligence: Educational implications. 1997;3:31.
2. Punia BK. Emotional Intelligence and Leadership Behaviour of Indian Executives - An Exploratory Study. available from: <http://www.citeseerx.ist.psu.edu/viewdoc/download?rep=rep1&ndtype=pdf&doi=10.1.1.200.6179>
3. Goleman D. Working with emotional intelligence. Chap. 1. Edi: Bantam Books. 1998
4. Naidoo S, Pau A. Emotional intelligence and perceived stress. *SADJ: J South Afr Dent Assoc* 2008;63(3):148-51.
5. Watson R., Dreary I., Thompson D. A study of stress and burnout in nursing students in Hong Kong: a questionnaire survey. *Int J Nurs Stud* 2008;45(10):1534-1542.
6. Schutte NS, Malouff JM, Hall LE, Haggerty DJ, Cooper JT, Golden CJ. Development and validity of a measure of emotional intelligence. *Personal Individual Differ* 1998;25(2):167-177.
7. Cohen S, Kamarck T, Mermelstein R. A global measure of perceived stress. *J Health Soc Behav* 1983;24:385-396. doi: 10.2307/2136404
8. Goldberg D, Williams P. A user's guide to the general health questionnaire. Windsor: NFER-Nelson, 1988
9. Folkman S. (2013) Ways of Coping Checklist (WCCL). In: Gellman M.D., Turner J.R. (eds) Encyclopedia of Behavioral Medicine. Springer, New York, NY.
10. Dehshiri GhR. Investigating the relationship between emotional intelligence and time management with job stress in high school teachers. *News and Consulting Researches*. 2004;4(12):53-64.
11. Joseph N, Joseph N, Panicker V, Nelliyanil M, Jindal A, Viveki R. Assessment and determinants of emotional intelligence and perceived stress among students of a medical college in south India. *Indian J Public Health* 2015;59:310-3.
12. Ranasinghe P, Wathurapatha WS, Mathangasinghe Y, Ponnampereuma G. Emotional intelligence, perceived stress and academic performance of Sri Lankan medical undergraduates. *BMC Med Educ*. 2017;17:41.
13. Gupta R, Singh N, Kumar R. Longitudinal predictive validity of emotional intelligence on first year medical students perceived stress. *BMC Med Educ*. 2017;17(1):139.
14. Zeidner, Moshe, Gerald Matthews, and Richard D. Roberts. "Slow down, you move too fast: Emotional intelligence remains an" elusive" intelligence." 2001:265.
15. Lazarus R. S & Folkman S. (1984). Stress, appraisal, and coping. New York: Springer.
16. Mahajan Ranjive, Navkiran S. Mahajan, and Devinder Pal Singh. "Emotional intelligence and coping strategies in late adolescence presenting with deliberate self-harm." *Delhi Psychiatric J* 17 2014:303-7.
17. Petrides KV, Mikołajczak M, Mavrouveli S, Sanchez-Ruiz MJ, Furnham A. Pérez-González JC. Developments in trait emotional intelligence research. *Emot Rev*. 2016;8(4):335-41.

18. Chandra A, Gayatri A, Devi D. Assessment of emotional intelligence in first year medical graduates-A Questionnaire based study. *Int J Physiol* 2017;5;124-6.
19. Joshi D, Dutta I. Emotional intelligence among secondary students: Role of gender and type of school. *MIER J Educ Stud, Trends Pract.* 2016;4(2).
20. Van Rooy D. L., Alonso A., Viswesvaran C. Group differences in emotional intelligence test scores: Theoretical and practical implications. *Personality and Individual Differences*, 2005;38:689-700.
21. Joseph DL, Newman DA. Emotional intelligence: an integrative meta-analysis and cascading model. *J Appl Psychol* 2010;95(1):54.
22. Moazen M, Bani Hashemian K, Bahrami H, Emotional intelligence and job satisfaction of teachers and administrators regarding public health. *J Behav Sci* 2010;4(1):45-50.
23. Kouchakzadeh Talami S, Alizadeh S. Assessment the relationship between emotional intelligence and general health among nursing students. *Educational Development of Jundishapur.* 2014.6(2):23-30
24. Bagheri Yazdi A. A research about mental health of students of Tehran University. *J Thought Behav* 2005;10(34):30-9.