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Personality traits as a predictor of emotional intelligence among medical students

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Abstract:

INTRODUCTION: Emotional intelligence (EI) is the ability to understand and manage our own feelings and of others. It has emerged as one of the vital elements of success and interpersonal relations in everyday life. There are individual differences of EI depending on characteristics and behaviors of an individual, which determines their personality.

AIMS AND OBJECTIVES: The present study assesses the EI and personality traits of medical students and determines the relationship of EI with personality traits of the medical students.

MATERIALS AND METHODS: This was a cross-sectional study and was conducted among students of a government medical college, located in New Delhi. A total of 210 participants were included in the study. After obtaining written informed consent from all participants, a questionnaire consisting of demographic information, Ten-Item Personality Inventory and Schutte EI Scale, was administered. The means and proportions were calculated. Chi-square test and Pearson's correlation test were used to test significance. $P < 0.05$ was considered statistically significant.

RESULTS: The mean (standard deviation) age of the study participants was 21.54 (± 1.98) years. The majority (65.7%) of the students were male. 51% of the students had moderate EI, and high EI was seen in 49% of the students. A positive and significant relationship between personality traits and EI was found in the study.

CONCLUSION: Personality traits and EI are related to one another and could influence student academic achievement. Since EI influences academic performance so personality trait assessment and empathic perceptions exploration can facilitate to aid the academic performance of the students.

Keywords:

Emotional intelligence, medical students, personality traits

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Introduction

Emotional intelligence (EI) is defined as the capacity of recognizing our own feelings and those of others, for motivating ourselves, and for managing emotions well in us and in our relationships.^[1] In recent years, EI has emerged as one of the vital elements of success and interpersonal relations in everyday life.^[2] It is a type of intelligence that is very important in

reaching one's goals and is considered better than traditional intelligence measured by tests of intelligence quotient.^[3,4] Recently, the concept is gradually utilized for health-care delivery and patient-centered practice. With the professional relationships, health professionals must address to both the treatment aspects of the disease and associated emotional domain of the patients with the disease.^[5-7]

Five dimensions of personality proposed were extroversion, conscientiousness, agreeableness, neuroticism, and openness.

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Extroversion refers to traits inclusive of energetic, excitability, enjoying being with people, talkativeness, enthusiasm, assertiveness, and high quantity of emotional expressiveness. Conscientiousness refers to functions which include high ranges of thoughtfulness, with top impulse control and goal-directed behavior, being organized and aware of details. Agreeableness is normally characterized via trustworthiness, helpfulness, kindness, sympathy, generosity, and cooperativeness. Neuroticism is generally related to features consisting of emotional instability, distress, depression, anxiety, moodiness, irritability, bad coping capability, and sadness. Openness is pondered in individuals with qualities consisting of creativity, artistic, broad variety of interest, imaginative, insightful, and down-to-earth. Many researches have shown that the personality traits predict individuals' performance in various nonclinical career settings with regard to cognitive capability, mental health, job overall performance, well-being, career fulfillment, and personal features. Likewise, in the scientific context, the personality developments accomplice with several important areas, which include technique to work, mental health, career fulfillment, learning technique, and academic performance of clinical college students and professionals.^[8]

For the skillful management of emotions, it is required to have an understanding of emotions and awareness of the individual differences. These individual differences are observable in the characteristics and behaviors that are possessed by an individual and that can be expressed as personality.^[9] Previous researchers who had conducted studies on the relationship between personality traits and EI found strong relationship between personality traits and EI.^[10-17]

There is a paucity of literature on the relationship between personality traits and EI among medical students. Thus, the present study was conducted to assess the EI and personality traits of medical students and to determine the relationship of EI with each of personality traits of the medical students. Assessment of EI among medical students would help them to develop better clinical skills and put in best health-care practice. Conduction of the study in medical students from public sector college makes this research unique.

Materials and Methods

A cross-sectional study was conducted among students in a government medical college, located in New Delhi. The study population consists of medical students who were enrolled at the college during the time of the study from first to final year.

After obtaining ethical committee approval, the study recruited students who were willing to participate.

A total of 210 participants were included in the study. After obtaining written informed consent from all participants, a questionnaire consisting of demographic information, Ten-Item Personality Inventory (TIPI)^[18] and Schutte EI Scale (SEIS),^[19] was administered.

Schutte Emotional Intelligence Scale

Schutte EI Scale (SEIS) consists of 33 items. Each item is scaled in a 5-point Likert-type scale ranging from 1 (disagree strongly) to 5 (agree strongly). A higher score reflects a higher emotional intelligent individual and vice-versa. The Cronbach's alpha coefficient for this instrument ranged from 0.70 to 0.85, indicating high reliability.^[20]

The Ten-Item Personality Inventory (Gosling, Rentfrow, and Swann, 2003)

It consists of ten items that measure five personality dimensions: Extraversion (E), Agreeableness (A), Conscientiousness (C), Emotional Stability (ES), and Openness to Experience (O). Each dimension is measured by two descriptors; one of each pair is reverse scored. Participants should rate themselves on a 7-point scale ranging from 1 (disagree strongly) to 7 (agree strongly).

For analysis and comparison, the EI scores of the participants were categorized into low (33–77), moderate (78–121), and high (122–165). The Cronbach's alpha coefficients of extraversion, agreeableness, conscientiousness, neuroticism, and openness in the present study were 0.705, 0.703, 0.748, 0.721, and 0.774, respectively, which indicates good reliability.

Statistical analyses were performed using SPSS-IBM version 21.0 (Armonk, New York: IBM Corp. 2012). Simple frequencies and descriptive statistical analyses were performed and reported. The association between EI, empathy, and each of 5 personality scores were assessed using Pearson's correlation coefficient. The Chi-square statistical test of significance was applied, and $P \leq 0.05$ was taken as a statistically significant association.

Results

A total of 210 students participated in the study. The study participants were predominantly male (65.7%). The mean (standard deviation) age of the study participants was 21.54 (± 1.98) years. Majority of the study participants had scored more than 90% in class 12 examination.

Students were classified based on the EI scores. The majority 107 (51%) of the students had moderate EI, and high EI was seen in 103 (49%) of the students. None of the students were found to have low EI.

Table 1 shows the association between baseline characteristics of study participants with the EI category.

Gender and year of the study were not found to be statistically significant. Among the males and females, around 50% were in High EI category. The majority (179;92.7%) of the people in the category of high EI were satisfied with their career choice. Majority of those who secured >90% in class 12th examination were in high EI category [Table 1].

Pearson product-moment correlation analysis between the five personality traits and EI was done. A positive and significant relationship between personality traits of extraversion, agreeableness, conscientiousness, ES, and openness to experience and EI was seen ($P < 0.05$) [Table 2].

Discussion

The study was conducted among the medical students of a government medical college of Delhi. The relationship between personality traits and EI has not been widely investigated among medical students. Our study was

an attempt to find the association between EI and five dimensions of personality traits. In our study, EI and personality dimensions were found to be statistically significant. Similar findings have been reported by van *et al.* that the personality differences can shape EI, and there was a significant association between EI and personality traits.^[21]

On quantifying the EI among medical students, it was found that 51% of students had high EI and 49% of students had moderate EI. None of the students had low EI. Similar findings were reported by a study done by Unnikrishnana *et al.*, in which 36.3% had high and 61.8% had moderate EI.^[22] Contrary findings were reported by Zareena and Santakumari study, in which among 205 medical students aged between 18 and 21 years, 92.19% had high emotional quotient and 7.80% had moderate emotional quotient.^[23]

The present study found a positive association between EI and satisfaction with career choice, which was

Table 1: Baseline characteristics of the participants in association with EI (n=210)

Variable	n (%)	Moderate EI (107)	High EI (103)	P
Gender				
Male	138 (65.7)	70 (50.7)	68 (49.3)	0.927
Female	72 (34.3)	37 (51.4)	35 (48.6)	
Native place				
Delhi	132 (62.9)	62 (47.0)	70 (53.0)	0.133
Outside Delhi	78 (37.1)	45 (57.7)	33 (42.3)	
Category				
General	121 (57.6)	61 (50.4)	60 (49.5)	0.395
OBC	60 (28.6)	29 (48.3)	31 (51.7)	
SC	19 (9.0)	13 (68.4)	6 (31.6)	
ST	10 (4.8)	4 (40.0)	6 (60.0)	
Socioeconomic status				
Rich	1 (0.5)	0 (0)	1 (100)	0.537
Upper middle	80 (39.1)	41 (51.2)	39 (48.8)	
Middle	125 (59.5)	65 (52.0)	60 (48.0)	
Poor	4 (1.9)	1 (25.0)	3 (75.0)	
Batch/semester				
2018 (1 st semester)	54 (25.7)	23 (42.6)	31 (57.4)	0.492
2017 (3 rd semester)	27 (12.8)	17 (63.0)	10 (37.0)	
2016 (5 th semester)	46 (21.9)	25 (54.3)	21 (45.7)	
2015 (7 th semester)	47 (22.4)	23 (48.9)	24 (51.1)	
2014 (9 th semester)	36 (17.2)	19 (52.8)	17 (47.2)	
Current mental status				
Happy	68 (32.4)	30 (44.1)	38 (55.9)	0.345
Fine	134 (63.8)	72 (53.7)	62 (46.3)	
Sad	8 (3.8)	5 (62.5)	3 (37.5)	
Satisfaction with career choice				
Yes	190 (90.5)	95 (88.4)	95 (92.7)	0.258
No	20 (9.5)	12 (11.6)	8 (7.3)	
Marks in 12 th class				
50%-70%	8 (3.8)	5 (62.5)	3 (37.5)	0.545
71%-90%	88 (41.9)	48 (54.5)	40 (45.5)	
>90%	90 (42.8)	43 (47.8)	47 (52.2)	

Table 2: Correlation of emotional intelligence with EI (n=210)

TIPI dimension	Mean±SD	P
E	4.16±1.40	0.07
A	5.00±1.04	0.03
C	4.87±1.22	0.000
ES	4.53±1.31	0.009
Openness to experience	5.04±1.11	0.000

TIPI=Ten item personality inventory, SD=Standard deviation, E=Extraversion, A=Agreeableness, C=Conscientiousness, ES=Emotional stability, O=Openness to experience

similar to findings of the study conducted by Saeedi *et al.* in Iran.^[24] In many studies, EI in medical students and physicians has been investigated to find out the influencing factors, such as personality, gender, and experience and its effects on empathic perceptions.^[25-29] In our study, it was found that age, gender, academic year of the study, and permanent residence (urban/rural) had no significant influence on the EI scores.

The present study endorses extroversion as positively related to EI. The finding is expected as individuals who are extroverts are talkative, assertive, energetic, outgoing, excitement seekers, and enthusiastic.^[30,31] Being socially active, outgoing, and having good interpersonal skills, these can be considered as emotionally intelligent with the capacity to be able to use, understand, and regulate one's and others' emotions.^[12,31]

The study also found that agreeableness is significantly associated with high EI. Similar findings have been reported in studies where people with these agreeable characteristics have high EI.^[13,17,31] Meanwhile, for individuals who are agreeable, they are kind, altruistic, forgiving, warm, and compassionate.^[31]

The study showed a significant association between ES and EI. Being emotionally stable means one can manage and regulate one's emotions and convert the negative ones to a more positive emotions such as change one's perceptions of the situations.^[12] People who are conscientious are productive, reliable, responsible, thorough, and so forth.^[31] The more conscientious an individual is, the higher the EI one has.^[32,33] Therefore, conscientiousness is positively associated with EI as seen by the present study. Finally, a person who is high in openness is artistic, insightful, original, fantasy, and so forth.^[31] Thus, they are assumed to be emotionally intelligent persons as supported by literature review and the results of this study.^[14]

Most of the tests of EI suggest that women are on an average better than men at some forms of empathy, and men do better than women when it comes to managing distressing emotions.^[31,34-36] Women express their emotions easily and more frequently.^[37] A study

conducted among students of London Medical School showed that females have higher EI.^[38] Contrary findings have been seen in our study where the overall EI obtained from the EI scale, of men and women, was found to be almost equal, which reflects that both men and women are capable of understanding, recognizing, and managing their own emotions and that of others. In our study, also, there was no significant difference of EI score among males and females. This finding challenges the traditional notion that women score better than men in EI.^[39]

Limitation

The study represents only students of government institution. Furthermore, it is not representative of students of medical colleges of second tier cities and towns. A multicentric study could give insights on EI influenced by personality traits.

Conclusion

Personality traits and EI are related to one another and may predict students' academic achievement. However, the literature review showed that very few investigations were conducted on medical students using personality traits and emotional intelligence. It is, therefore, crucial to study the personality traits of medical students and how it may be associated with EI and affect their academic achievement. If empathic perceptions are explored in medical students at a very early period of their medical school training, it will facilitate in capturing their characteristics to aid in developing a new communication program.

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Conflicts of interest

There are no conflicts of interest.

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