

## Emotional Intelligence among Dental Undergraduate Students: An Indispensable and Ignored Aspect in Dentistry

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### Abstract:

**Background:** Emotional intelligence (EI) is a measure of pure intelligence of cognitive ability that translates psychological knowledge into terms that are useable by people not professionally trained in psychology, like dentists.

**Materials and Methods:** A cross-sectional, self-administered, structured questionnaire survey in English was distributed among 186 undergraduate students to assess their EI. It consisted of 30 questions, 5 each to assess the self-awareness, empathy, self-confidence, motivation, social control, and self-competency. All the participants were asked to answer each question, anything between virtually never to virtually always using the rating scale 1-5.

**Results:** The collected data were analyzed using statistical software SPSS version 20 (Chicago, Inc.). The mean, median, and mode for various responses between the groups were compared. Only 11.55% of the participants had good EI with scores above 20 in all domains, while a majority of 54.02% proved to have average EI. A mere 2.05% showed to have very poor EI and 28.84% demonstrated poor EI.

**Conclusions:** The study showed that only 11.55% had a good EI and a major percentage of the students require immediate intervention to improve their EI.

**Key Words:** Emotional intelligence, empathy, motivation self-awareness, self-competency, self-confidence, social control

### Introduction

The conceptual emphasis of addressing the issues of the tooth or orofacial structures along with the concerns of the person involved has been the basis for providing health care in dentistry. Dental education and practice have been acknowledged as one of the most challenging, demanding, and stressful fields.<sup>1-4</sup> Many studies have identified that stress is involved at every stage in a dentist's career. Hence, the dental students are expected to acquire diverse competencies such as academic and clinical competencies and interpersonal skills.<sup>1,5-10</sup> Further, the dentist has to be competent to understand the influence of the behavior of the patient so as to apply unique individualized approach while treating the patients.<sup>11</sup>

It is evident that healthcare professionals including dentists, hospital staff, and patients all bring important emotions to the workplace. Research focused on emotional intelligence (EI) over the past two decades has suggested that this might significantly determine whether these emotions enhance the practice or lead to interpersonal conflicts.<sup>12</sup> EI, a conceptual framework is currently viewed as a form of pure intelligence of cognitive ability that translates psychological knowledge into terms that are useable by people not professionally trained in psychology, like dentists.<sup>11,12</sup>

India, an emerging economic global icon is known for its "Unity in Diversity." Demographically, being the second largest nation we have nearly 300 dental schools wherein students from different economic and social backgrounds are choosing dentistry as their career. Hence, assessing the EI of these budding dentists is valid. However, the scarcity of studies undertaken related to EI especially, in a culturally diverse and magnanimous Indian society prompted us to embark on a study of this nature.

### Materials and Methods

#### Settings

A cross-sectional, self-administered, structured questionnaire survey in English was conducted to assess EI of all the undergraduate students in Drs Sudha and Nageswara Rao Siddhartha Institute of Dental Sciences, Gannavaram, India.

#### Participants

All the undergraduate students from second, third, and final year BDS students and interns aged 19-25 years, were invited

to participate in the study. First-year students could not be included as the admission for the current academic year was not done when this study was being carried out. 186 students participated in the study.

**Questionnaire**

The structured questionnaire was adapted from Sterrett’s EI questionnaire.<sup>13</sup> It consisted of 30 questions, 5 each to assess the self-awareness, empathy, self-confidence, motivation, social control, and self-competency. All the participants were asked to answer each question, anything between virtually never to virtually always using the rating scale 1-5 (Table 1).

All the 186 participants duly filled and returned the questionnaire.

**Scoring criteria**

The ratings for each category were added in a template to obtain the total score for that specific facet of EI based on 5-point Likert scale scoring from 1 to 5 (virtually never = 1 to virtually always = 5). The total score was the sum of all 6 domain scores. The minimum and a maximum score for each domain were 5 and 25, respectively. The EI score was derived by summing up the score obtained for all the domain; the maximum and minimum total scores being 150 and 30, respectively. Any score of above 20 in each domain was deemed for good EI. Scores between 16 and 20 was considered for average EI; scores below 15 and 10 were considered for poor EI and very poor EI, respectively. Average EI meant that there is a need for improvement in that domain while poor and very poor EI required immediate intervention.

**Statistical analysis**

The collected data were analyzed using statistical software SPSS version 20 (Chicago, Inc.). The mean, median, and mode for various responses between the groups were compared.

**Results**

The distribution of the participants is described in Table 2. Of 186 undergraduate students, 28 were males and 158 females; all of them aged between 19 and 25 years. The proportions of the participants by gender appeared to reflect the overall student population choosing BDS as their profession. The maximum participants were 22 years old and the least were 25 years. Further, 130 of them were 20-22 years old (20 years-41 participants, 21 years-44 participants, 22 years –participants).

Table 3 describes the mean, median, standard deviation; minimum and maximum score for each component of EI, as well as that of the overall score of EI. Of all the variables self-awareness was found to be more than the others with the mean and median scores were 18.2 (±0.420) and 18.5, respectively. Self-confidence, self-control, empathy, and motivation were found to be approximately the same among all the individuals. However, social competency was found to be the lowest of all with mean 15.81 (±0.342) and median 16. When the overall

EI was estimated, the highest score was 144 and lowest was 68 with the mean 101.93 (±5.56) and median 101.

When the total score obtained by each individual were analyzed (Table 4) only 11.55% of the participants had good EI with scores above 20 in all domains while a majority of 54.02% proved to have average EI. A mere 2.05% showed to have very poor EI and 28.84% demonstrated poor EI. The same pattern of scoring has been observed when each component of EI was analyzed.

**Discussion**

Goleman suggested that success of life depended more on EI than cognitive intelligence. Many researchers have attempted to define EI since then and have used various terms to describe such as emotional literacy, the emotional quotient, personal intelligence, social intelligence, and interpersonal intelligence.<sup>14</sup> In a broader sense, it comprised of those skills that enables an individual to create value for oneself and others.<sup>14</sup> The increasing complexities of the curriculum in education from schooling to graduation and beyond will always be challenging to every individual and hence EI can be considered to influence many aspects of daily life.

EI is increasingly made reference to in medicine and other healthcare disciplines where it is suggested it is important for professional mental health as well as effective practice.<sup>14,15</sup> Salovey and Mayer introduced this concept of EI over decade ago and is described as a type of social intelligence that involves the ability to monitor one’s own and other’s emotions, to discriminate among them, and to use this information to guide one’s thinking and actions.<sup>14,15</sup> In a broad spectrum of skills that enables an individual to create value for oneself and others.

Dental education has been asserted as one of the most challenging, demanding, and stressful fields of study, as dental students are expected to acquire diverse competencies such

**Table 1: 5-point Likert’s scale used to answer the questions in the study.**

Score	Description
1	Virtually never
2	Sometimes never
3	May be
4	Sometimes always
5	Virtually always

**Table 2: Distribution of the participants based on age and gender.**

Age (years)	Gender		Total no of participants (based on age)
	Male	Female	
19	0	8	8
20	5	36	41
21	5	40	45
22	9	35	44
23	4	31	35
24	3	7	10
25	2	1	3
Total no participants	28	158	186
Grand total			

Table 3: The measures of central tendency in relation to the 6 domains of EI.

N=186	Self-awareness (25)	Self-confidence (25)	Self-control (25)	Empathy (25)	Motivation (25)	Social competency (25)	Overall score (150)
Mean	18.20	17.03	16.81	17.10	17.25	15.89	101.93
Median	18.50	17.0	17.00	17.00	17.00	16.00	101.00
Standard deviation	0.420	0.380	0.37	0.382	0.387	0.342	5.56
Minimum	10.00	8.00	6.00	9.00	10.00	7.00	68.00
Maximum	25.00	24.00	24.00	25.00	25.00	24.00	144.00

EI: Emotional intelligence

Table 4: Percentages of the overall subjects.

EI components	% of subjects with scores above 20	% of subjects with scores below 20	% of subjects with scores below 15	% of subjects with scores below 10
Self-awareness	20.43	41.93	16.12	0.53
Self confidence	10.21	60.75	27.95	1.07
Self-control	8.60	56.45	32.79	2.15
Empathy	11.82	59.13	28.49	0.53
Motivation	13.97	58.06	24.73	3.22
Social competency	4.30	47.84	43.01	4.83
Overall percentage of subjects	11.55	54.02	28.84	2.05

EI: Emotional intelligence

as academic and clinical along with the interpersonal skills.<sup>1,16</sup> The stressful nature of the dental profession and the factors involved have been well-documented.<sup>1,16</sup> Assessment of EI is an important factor in determining students' adjustment and educational achievements. It is believed that EI may explain differences in the quality of intrapersonal and interpersonal relationships and contribute to job performance and management effectiveness and predict success.<sup>14</sup> Recent studies have proven that the students with high EI can cope up to the stress and perform better in the academics.<sup>15,17-20</sup>

India being known for the cultural diversity, it is valid to assess the EI across the country, as many students from different backgrounds are choosing dentistry. With the surge in the number of dental colleges, the scenario pertaining to dentistry has changed in India and the dentist to population ratio has come down to 1:10,000 in urban and 1:20,000 in the rural parts of the nation.<sup>21</sup> However, in India dental students are not assessed for their EI before their admission or they undergo any specific education in this regard. The quality of the future dental workforce will be in jeopardy as EI of the students choosing dentistry every year, is unknown. Only a few studies have been done and the available data is sparse.<sup>12</sup>

With this background, the present the study was undertaken so as to establish a baseline data about the EI of the students choosing dentistry as their career, in this part of the country.

Of the 186 participants, 158 were female and 28 were male. This is in accordance with the trend in most of the colleges

in India, as most of the females are choosing dentistry as their career.<sup>15,21-23</sup> It has been observed that dentistry has been attractive to women as their stature in the society is better financially and professionally.<sup>23</sup> A structured questionnaire adapted from Sterrett's EI questionnaire,<sup>\*</sup> and the scoring was done using 5-point Likert scoring scale as it is most widely accepted worldwide. The EI of all the participants was assessed by evaluating the six facets of EI: Self-awareness, self-confidence, self-control, empathy, motivation, and social competency.

Self-awareness means having a deep understanding to one's emotions, strengths, weaknesses, needs, and drives. Self-confidence is a positive and balanced attitude having to do with the Self dimension. It consists of a basic belief that we can do what is needed to produce the desired outcome. Self-control is dealing well with stress, controlling emotional moods or outbursts without over control. Empathy means to be considerate and aware of other's feelings. Empathetic individuals are also effective in retaining talent because they are able to develop a personal rapport with others. Motivation is a synonym for enthusiasm, initiative, and persistence. A positive attitude in the social dimension is motivation, one of the key facets of EI and of leadership. Appropriate behavior in the social dimension leads to social competency. To develop such social skills, we must focus on other people, rather than on what we are experiencing or want to say.<sup>14</sup>

When both mean and median of each of the 5 domains of EI were evaluated, the values obtained were consistent with each other. This could be attributed to the fact that the most of the scores obtained were analogous.

When each domain was evaluated in the present study, few had scored above 20; while the majority of the students obtained average scores (16-20) followed by poor (11-15) and very poor (below 10). The same trend was when the overall scores were considered, 11.55% had good EI, 54.02% had average EI. Further, 28.84% had poor and a mere 2.05% had very poor EI. This showed that most of the students required assistance to improve their EI. This was in congruence with other studies.<sup>14,24</sup>

#### Limitations of the study

Our study was a self-reported assessment and reflected the EI of students in our institution. The observations of the present study

cannot be deemed to be applicable to the students studying in other colleges in the same region as well as across the country.

As EI was assessed based on the self-reported scale, the validity of the data can be questioned. This type of studies can be accurate only when the individual's self-concept is precise. The results of the study are prone for response bias as students can tend to either exaggerate or fake their responses. Previous study has suggested that this limitation can be overcome when peer assessment and self-reporting responses are evaluated together.<sup>12</sup>

### Conclusion

This study was carried out to obtain the baseline data on EI of the undergraduate students in this part of the country. Only 11.55% of the students had good EI and most of them need definite intervention to improve their EI.

### Recommendations

- Further research has to be carried out to design a valid mean to assess EI which can be relevant to the Indian scenario
- EI of the students have to be assessed in the formative years such as in school, so that appropriate measures can be taken to improve if needed
- EI of the candidate has to be considered as important during the admission process to professional courses as they are more stressful and challenging. Only then, one can safeguard the standards that are mandatory for dentistry and other professional courses.

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