

## Emotional intelligence: the less explored influential factor on the academic performance of a dental student

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### Abstract

Dentistry is one among the most challenging and stressful fields. Research evidence that a person's emotional intelligence (EI) influences their educational and occupational performance is increasing. Hence, our aim was to assess the influence of trait emotional intelligence on the academic performance of dental undergraduates. A cross sectional study was done on 462 students of 2nd, 3rd, 4th years and interns from five dental colleges using simple random sampling. Trait emotional intelligence was measured using the shorter version of Trait Emotional Intelligence Questionnaire (TEIQUE-SF), and academic performance was assessed using score obtained in the university examination. The mean EI was found to be 101.01. Majority of them agreed that in spite of finding it difficult to regulate emotions; they could deal effectively with people. Almost 59% of them agreed that they could deal with stress and 66% were able to control their emotions. There was also a significant difference between EI and age ( $p=0.000$ ). Emotional Intelligence had a significant association with the academic performance of the students.

**Keywords:** Emotional intelligence, academic performance, dental under-graduates, Hyderabad.

### Introduction

India is demographically the second largest nation and is known for its diversity in culture and practices. The value the various people of this country place on relationships is a significant factor that unifies this extremely diverse nation.<sup>(1)</sup> The ability to perceive emotions in self and others, and managing them, form the important attributes for handling one's relationships and these attributes are encapsulated in the psychological construct called Emotional Intelligence.

The concept of emotional intelligence (EI) has its roots way back in the early 1990's when Mayer and Salovey defined it as "the ability to perceive emotions, to access and generate emotions so as to assist thought to understand emotions and emotional meanings and to reflectively regulate emotions so as to promote both better emotional and intellectual growth."<sup>(2)</sup>

There are a very few studies that have worked on EI of medical and dental students in Indian context, like that of RS Ravichandra et al(2015)<sup>(1)</sup> who concluded that a major percentage of students required immediate intervention to improve their EI while the study by Bhaskar et al(2013) showed that the pedodontic post graduates in India had high EI scores.<sup>(3)</sup> These studies however, provided only baseline information on EI.

Research suggests that emotional intelligence leads to top performance even in the most intellectual careers. A study by Chew et al(2013) showed that Dentists with higher EI show more positive social functioning and can better manage emotions, adapt to change and handle stressful situations that could facilitate cognitive and intellectual development, which in turn can lead to a better academic performance.<sup>(2)</sup> However, a number of other studies like that of Newsome et al(2000)<sup>(4)</sup> and O'Connor and Little(2003)<sup>(5)</sup> did not find significant

relationships between emotional intelligence and academic success.

Emotional intelligence can be "as powerful, or at times more powerful, than IQ" in predicting how successful one is in life.<sup>(6)</sup> While according to the corporate world the EI of a person is envisioned as a predictor of workers success, the role it plays in our dental profession needs to be explored further.<sup>(3)</sup> Dentistry definitely has been known to be one of the most stressful fields and the dental students are expected to acquire both academic and clinical skills in tandem. But in India, dental students do not undergo any specific training in this aspect. Thus dental students with low EI might hamper the quality of future dental workforce, which is a serious concern to be focussed on.<sup>(3)</sup>

Hence the objective of the present study is to find the factors underlying academic performance, by measuring the EI of the dental undergraduates, through the Trait Emotional Intelligence Questionnaire- short form (TEIQUE-SF).

### Materials and Method

A cross sectional questionnaire based survey was conducted for a period of three months, from January to April 2016, to assess the emotional intelligence of all the under graduate students in the dental colleges in and around Hyderabad city. Ethical clearance was obtained from the institutional review board of Sri Sai College of Dental Surgery(Ref No.222/SSCDS/IRB-E/2016) and prior permission was taken from all the institutions for conducting the study. Pilot study was done to determine the feasibility of the study and assess the sample size. A total of 462 undergraduate students from second, third, fourth years and internship of five dental colleges, who were willing to participate and were present on the day of data collection were invited to participate in the study.

First year students were excluded as the assessment of the academic outcome through the university examination for them was not possible at the time of study.

A Simple random sampling technique was used to select the participants for the study. A list of the students from every year in each college was obtained and the participants were randomly selected. In case the participants were absent or not willing to participate in the study, the next name was randomly selected until the desired sample size was attained.

Pre-tested ( $\alpha = 0.73$ ), structured questionnaire of Trait Emotional Intelligence – short Form (TEIQUE-SF)<sup>(7)</sup> was used, which consisted of 30 items, designed to measure the trait emotional intelligence. The TEIQUE-SF is derived from the original version of trait emotional intelligence questionnaire, which covers 15 distinct facets.<sup>(8)</sup> Two items from each of the 15 facets were included in the short form and the total questions were grouped under 5 domains. The responses on the emotional intelligence scale were graded on a 5 point likert scale, ranging from **1** (completely disagree) to **5** (completely agree). A trait emotional intelligence score was calculated by summing up the item scores. The academic performance was graded as 1 for a percentage of 75% and above, 2 for a percentage of 65%-75% and as grade 3 for a percentage of 50%-65%. Academic performance was measured by the university examination marks. The collected data was subjected to statistical analysis using SPSS version 20 and chi square

test was used to find the association between emotional intelligence and academic performance.

## Results

A total of 462 students completed the survey and agreed for their academic grades to be linked to their survey (100% response rate). Among them, 58 students belonged to 2<sup>nd</sup> year BDS, 135 to 3<sup>rd</sup> year, 112 to the final year and 157 were interns. The survey questionnaire had questions under 5 main domains- well- being, self-control, emotionality, global trait and sociability.<sup>(8)</sup> The mean scores of males and females under each of the five domains of trait emotional intelligence are presented in Table 1. The mean EI score in the study was found to be 101.13. There was a significant association between emotional intelligence and the academic performance (0.000, C.I = 95%;  $p < 0.05$ ). Emotional intelligence of the students was graded as above average, average and below average as shown in Table 2, whereas the academic performance was based on the grades given under the university guidelines as distinction, first class and second class as in Table 3. There was also a significant difference between emotional intelligence and age (0.000, C.I = 95%;  $p < 0.05$ ). EI was found to vary among the males and females with a  $p$  value of 0.023 (C.I = 95%;  $p < 0.05$ ). Academic performance was significantly associated with the gender with a  $p$  value of 0.034 (C.I = 95%;  $p < 0.05$ ).

**Table 1: Comparison of the five domains of emotional intelligence according to the gender**

Dimensions of EI	Males		Females		't'	p-value
	Mean	S D	Mean	S D		
Self –control	19.91	3.749	17.93	3.931	1.471	0.142
Well-being	22.81	2.985	21.01	3.464	2.145	0.033*
Sociability	18.62	3.244	16.62	3.536	0.608	0.543
Emotionality	29.86	5.804	26.16	4.649	-1.260	0.208
Global trait	13.92	3.198	13.58	3.266	0.398	0.691

Total EI = 105.12 (males) and 95.30(females). $p = 0.000$

\*Significant at 5% level of significance.

**Table 2: Description of categories of emotional intelligence in the study population**

Emotional intelligence	Number of students	Percentage
Above average(105-150)	191	41.34%
Average (45-104)	271	58.65%
Below average(<44)	0	0%

**Table 3: Grading of academic performance of students**

Academic Performance	Number of Students
Distinction ( $\geq 75\%$ )	9
First class (65%-74%)	337
Second class (55%-64%)	116

Academic performance Vs emotional intelligence,  $\chi^2 = 1413.215$ ,  $p = 0.016$ .

## Discussion

Since the Goleman's affirmation, that EI can matter more than the IQ; many researchers have defined EI in their own ways, which in a broader context is the skill that enables people to create value for themselves and others. This is definitely prone to influence various aspects of life owing to the continuously increasing standards of the education and professions. It is known to be gaining equal importance in all the health care disciplines as well, as there are more and more studies stressing on its influence on professional mental health and an efficient practice.

It should be understood that trait emotional intelligence and ability emotional intelligence are two different constructs of expressing EI. While the former is measured through self-report questionnaires like 'The Trait Emotional Intelligence Questionnaire' (TEIQUE), the latter is measured through tests of maximum performance like the 'Mayer-Salovey-Caruso Emotional Intelligence Test' (MSCEIT). In the present study, the influence of EI on the academic performance was assessed using the Trait Emotional Intelligence Questionnaire-short form that has excellent psychometric properties, is based on a psychological theory and covers all the 15 facets of trait emotional intelligence.

Of the 462 participants, 370 were females and 92 were males. This follows the trend in most of the colleges in India.<sup>(9)</sup> Dentistry has been more attractive to women as their status in the society is known to be financially and professionally sound.<sup>(10)</sup> There was a significant difference between E.I of men and women, in this study even. Prior research on gender difference in EI measured using self-reported Emotion Quotient Inventory (EQ-i) Bar-On<sup>(11)</sup> had shown that men and women do not differ much in their overall EI scores. However, there might be a difference in specific competencies. Several hypotheses have been postulated to account for gender differences in EI scores, of which biological variations and differences in early childhood socialisation in same gender playgroups and fulfilment of culturally prescribed gender role expectations might be the primary reasons.<sup>(11)</sup> According to Cross and Madson (1997), the difference was attributed to types of self-outlines like independent vs interdependent.<sup>(12)</sup>

The mean E.I in the study was found to be 101.13 and the significant association between E.I and academic performance was similar to the study of Ritin Fernandez et al(2012),<sup>(13)</sup> which is likely to be because of a homogenous group of students and a similar questionnaire that was used.

The pattern of correlations between academic success and E.I. in this study was in contrast with the findings of other studies by Newsome et al(2000)<sup>(6)</sup> which might have been due to the methodological differences between the studies. All these studies used a heterogeneous group of students. In a study conducted by Rode et al(2007),<sup>(14)</sup> it was predicted that emotional intelligence was related to academic performance for two reasons. First, academic performance involves a great deal of ambiguity,<sup>(15)</sup>

where students are required to deal with numerous assignments, adapt to the differing teaching styles of instructors, and manage both academic and non-academic schedules.<sup>(14)</sup> In addition, some facets of academic work, like, taking exams, may be very stressful. Second, the academic work majorly requires high levels of self-management.<sup>(14)</sup>

Rode et al continued by including the research of Mayer and Salovey(1999):<sup>(16)</sup> individuals with higher emotional intelligence have the ability to direct their positive emotions to make up for the energy needed for high performance in the long run and to redirect negative emotions into productive behaviours. Thus, individuals with high emotional intelligence would perform better academically.

Considering the factor of well-being, that represents how realistic one is in estimating their abilities, a majority of 63% of them disagreed to the statement that they don't find life enjoyable and most of them (58%) were pleased with their life and believed that things will work out fine in their life (78%), which implies that most of them were content with life and were optimistic about the future, which could help them remain confident in the face of adversity. This might have been because of the positive hope with which they would have entered into this profession and their positive attitude that dentistry would provide them with a bright future. There was also a significant difference between the well-being scores of males and females with males scoring high than females. Women generally tend to aim for perfection in everything they do, ultimately turning out to be dissatisfied and pessimistic when things don't shape out the way they were expected to be.

When it came to the factor of self-control, i.e. the ability to control impulses, the mean was found to be 18.92. About 44% of them agreed that they found it difficult to regulate their emotions which might have been because of the amount of stress involved in this field that made them difficult to balance the theoretical and practical aspects together, ultimately making them weak in regulating their emotions.

Considering the factor of emotionality that reflects how much do they value 'emotional literacy' and how they make use of it, about 67% of them agreed that expressing their emotions with words was not a problem for them while only 48% of them said they could experience and understand other's emotions which might have been because the impact of time constraint in their regular curriculum in completing a set target of cases, causing the empathy towards others to be ignored. The mean for this domain was found to be 28.01.

The mean of the factor of sociability was found to be 17.62. This factor is an explanation of how comfortable one is in different social contexts. 62% of them could deal effectively with people, may be because of the profession that demands a good rapport with patients and the people in general. However only 37% of them could influence the way other people felt, implying poor leadership qualities of the study group. The mean global trait score, which is a snapshot of the general emotional functioning, was 13.75.

Emotional intelligence was also found to vary with age that was similar to the result of the study done by Mayer et al(1999),<sup>(16)</sup> Derkson et al(2002)<sup>(17)</sup> and Benson et al(2010).<sup>(18)</sup>

The main strength of the study was that the cohort was a homogenous group in terms of their education i.e., all the students were from dental profession, unlike a few other studies like that of Newsome et al(2000)<sup>(4)</sup> wherein the students were from two different courses- part time and full time. Moreover the first year dental students were excluded, preventing a bias in the results as in these students many other factors like acclimatisation to the new profession, forming new relationships, developing study habits for a new academic environment and budgeting finances might have a role on the emotional status of the students.

### Limitations of the study

The EI was assessed on a self-report scale, which can be considered accurate only if an individual's self-concept is precise. Besides, they are prone to response biases due to social desirability effects, resulting in exaggerated responses, influencing the study results. This limitation can be overcome by combining self-reported measures with peer assessment.<sup>(19)</sup> Previous investigators have indicated that there is a need to make clear, the origin and nature of EI, followed by devising valid measures that measure EI. Future studies that could involve the other outcome variables, such as patient satisfaction and clinical performance of the dentists are also needed.<sup>(20)</sup>

It was found in our study that the students had an average emotional intelligence that was significantly associated with academic performance. The EI levels have to be further improved, by making sure that every dental college has regular counselling and personality development classes along with the normal curriculum that will help them develop a positive attitude and manage their stresses well. Other activities like yoga and meditation might as well help them in attaining peace of mind that will make them perform better, both academically and clinically.

### Conclusion

The mean Emotional intelligence score was 101.013 and it emerged to have a significant influence on the academic performance of the students. Higher levels of awareness and understanding of their emotions have a positive impact on student's academic achievement. Higher emotional intelligence makes the students to pursue their interests more vigorously and think more expansively about the subject leading to higher academic performance.

On the grounds that health care professionals who communicate better and demonstrate higher levels of professionalism are more emotionally intelligent, EI, on the first inspection, provides just what dental curricula need.<sup>(19)</sup>

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