### **Original Research Article**

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### Dance, sports or academics: which monopolize students emotional quotient

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#### ABSTRACT

**Background:** Emotional Intelligence (EI), often measured as an Emotional Intelligence Quotient (EQ), refers to skills that provide the ability to balance emotions and reason, which provides long-term happiness. Focus on Intelligence Quotient (IQ) in the current era has to be changed for the betterment of society. Objectives was to assess and compare Emotional Quotient (EQ) among students who excel in dance, sports, and academics.

**Methods:** This was a cross-sectional study conducted among three groups of minimum 30 students who are excellent in dance, academics or sports. EQ was assessed using a 22 item EQ test which measures the psychological dimensions such as emotional sensitivity, emotional maturity and emotional competency and also total EQ.

**Results:** Out of 91 students, maximum students were having extremely high EQ in the domains of emotional sensitivity 36 (39.6%), emotional competency 88 (96.7%) and total EQ 85 (93.4%). Dancers showed significantly high EQ in the domains of emotional maturity, emotional competency, and overall EQ compared to sportspersons and academicians. Increased age, agriculture and business occupation of mother and presence of another sibling were significantly associated with emotional intelligence of students.

**Conclusions:** This study showed that inclusion of extracurricular activities like dance and sports along with academics may improve the self-confidence and increased awareness about one's own emotions, leading to raised EQ.

Keywords: Academics, Dance, Emotional quotient, Emotional intelligence, Sports

#### **INTRODUCTION**

The word Intelligence is derived from the Latin verb "intelligere", to comprehend or perceive. Many authors tried to describe intelligence in different meaningful ways.

Wechsler stated that "intelligence is a global capacity of the individual to act purposefully, to think rationally, and to deal effectively with his environment."<sup>1</sup>

From the time since the development of intelligence test use of intelligence quotient (IQ) became an acronym for intelligence itself. People thought that high IQ denotes a person to be superior and unconquerable. This mentality led to the promotion of IQ tests and classification of human beings based on it.<sup>2-4</sup>

According to Wigglesworth hierarchy of human intelligence, the physical quotient (PQ) occupies the down position, with IQ next and Emotional Intelligence

Quotient (EQ) and Spiritual Intelligence (SI) in the top. These four hierarchies were in the sequence of development such that PQ denotes the control of bodies and IQ denotes the capture of cognitive and linguistic abilities. EQ will provide competence to balance emotions and reason and SI will ultimately fill the gap between intra and interpersonal emotions.<sup>5</sup>

In the field of educational sciences, it seems that the deepest discussion about new approaches of the 21st century will be between the concepts of academic intelligence (IQ) and emotional intelligence. The question of "why EQ is important" can be answered by the definition "as the capacity that individuals have for monitoring and understanding their feelings and those of others, describe the discrimination between various types of emotions and using this information to channel thoughts and knowing and recognizing one's own emotions, managing emotions, motivation, being aware of other's emotions, and being able to control relations with others".<sup>6,7</sup> Five domains of EQ are knowing your emotions, managing your own emotions, motivating yourself, recognizing and understanding others emotions, managing relationships.<sup>8</sup>

In the current education system, increased focus is given on IQ for the future citizens of the country, thereby incorporating more emphasis on academic deliverance than sports or dance. Thus, the colleges and universities furnish mere pupils who excel and masters there IQ rather than EQ or SI. Success in life doesn't depend merely on IO. There are studies which showed people with high EQ eventually become successful in life.9,10 Dance and sports incorporate the ability to be aware of others' emotions, feelings, and needs, and to establish and maintain cooperative, constructive and mutually satisfying relationships.<sup>10</sup> Those people who excel in these areas will be sustainable in their relationships, advanced to be leaders in future and excel in their EQ. This study was to determine which discipline (dance, sports, and academics) would excel in the EQ status and to compare them. This study results can be taken up for the further advancement of the curriculum in terms of activities and method of teaching.

#### **METHODS**

This was a cross-sectional study done among medical graduate students from a single college during a period of two months (October-November 2017). Minimum of thirty students each, who excel in the field of dance, sports and academics were selected consecutively for the study. The selection was done mutually exclusively so that students who excel in that particular field only got selected. Inclusion criteria were that selected person should be an awardee or a scholarship recipient in that particular discipline (academics, dance or any sports) and should be a student in the particular medical college. With the sample size of 90 and 95% confidence level for

the level of EQ, the power of the study is calculated as 71%.

Data were collected by interview using a predesigned structured questionnaire which included two parts:

#### Part A

Socio-demographic data including age, residential area, religion, occupation and education of parents, number of siblings and rank.

#### Part B

EQ was assessed using a 22 item test (Know Your EQ: Emotional Quotient Test developed by Singh D and Chadha NK) which measures the psychological domains such as emotional sensitivity, emotional maturity and emotional competency and also total EQ.11 This test has been standardized for adolescent population and graduate students. For each situation, predetermined scores were given which together forms a domain. For example, emotional sensitivity domain scores will be formed by the addition of situations i.e., 2nd, 8th, 16th, 17th and 22nd questions. The total score range of each domain was 25-100 for sensitivity, 35-140 for maturity, 50-200 for competency and 110-440 for total EQ. The scores were divided into 90th, 75th, 50th, 40th and 20th percentiles to categorize into extremely high, high, moderate, low and try in some other day.

According to this test, emotional Intelligence motivates an individual to recognize truthfully, interpret honestly and handle tactfully the dynamics of human behavior. Each domain in EQ reflects few details which are represented in Figure 1.<sup>11</sup>



Figure 1: EQ domains and its details.

The present EQ test was made by compiling real-life situations experienced by individuals in their day-to-day life. The situations were selected to avoid response bias such as 'faking good' or 'social desirability tendency' by the respondents. This tendency refers to the inherent tendency of an individual to conform to the social norms. This EQ test has a test-retest and split-half reliability of 0.94 and 0.89 respectively and validity of 0.89.<sup>11</sup> Informed consent from the participants was obtained before administering the questionnaire.

The data of 91 students collected finally were entered into Microsoft Excel and analyzed using Epi Info. Sociodemographic details and frequencies of each domain were done by descriptive analysis like percentages, mean, standard deviation. Data were checked for normality using Shapiro Wilk test.<sup>12</sup> Associations between the EQ domains and socio-demographic variables were done using Pearson's correlation, one-way Analysis of variance test and regression analysis. The significance level for all statistical analysis was set at 0.05.

#### RESULTS

The mean ( $\pm$  SD) age of the study population was 20.92 ( $\pm$ 1.37) year within a range of 18-25 years. Out of 91 students interviewed 51 (56%) were males. Majority 65 (71.4%) were residing in the urban area and most 74 (81.3%) of them belonged to a nuclear family. Most 64 (70.3%) of the students were first born and 24 (26.4%) had two or more siblings. More than half of parents [Fathers -66 (71.5%) and Mothers-53 (58.3%)] had any

degree or diploma education. More than half 47 (51.65%) of the father were businessmen and 60 (65.93%) mothers were homemakers. Figure 2 gives the gender wise distribution of study subjects among each discipline (dance, sports, and academics).



## Figure 2: Gender wise distribution of study subjects among each discipline.

In the domain of emotional sensitivity, emotional competency and total EQ majority of the students showed extremely high EQ and the majority of study population scored high EQ in the domain of emotional maturity (Table 1).

	Extremely high	High	Moderate	low
Sensitivity	36 (39.6%)	29 (31.9%)	23 (25.3%)	3 (3.3%)
Maturity	14 (15.4%)	49 (53.8%)	21 (23.1%)	7 (7.7%)
Competency	88 (96.7%)	2 (2.2%)	0	01 (1.1%)
Total	85 (93.4%)	3 (3.3%)	3 (3.3%)	0

#### Table 1: Table showing distribution of study population in each EQ domains.

#### Table 2: Table showing association between EQ domains and disciplines.

Variables	Dancers (mean±SD)	Sports person (mean±SD)	Academicians (mean±SD)	Test value	p value
Sensitivity	86.13±14.01	86.67±9.03	88±8.87	0.235	0.79
Maturity	111.13±13.21	107.83±11.87	102 ±20.33	2.69	0.049*
Competency	168.71±17.03	153.5±15.27	152.83±13.56	10.47	< 0.001*
Total	365.97±33.99	348±24.41	342.83±36.97	4.34	0.016*

\*- One way Anova test, p value<0.05 was significant

Table 2 depicts the mean difference between EQ domains and the disciplines of the students. It was found out that in the field of emotional maturity, emotional competency and overall EQ, dancers showed significantly high Emotional quotient using one way ANOVA test. Following ANOVA, Levene's test was done to determine the homogeneity of variance. The resulting p-value of Levene's test was <0.05. Thus, the null hypothesis of equal variances is rejected and it is concluded that there is a difference between the variances in the population. Comparison between the groups was done using Games Howell Post Hoc Test. It was found that dancing significantly enhances emotional competency when compared to sports and academics.

Figure 3 shows that EQ and the individual domains; emotional sensitivity, emotional maturity and emotional competency of the students have a strong positive correlation between each.



\*- Pearson's correlation, p value <0.05 was significant

## Figure 3: Correlation between EQ domains [correlation coefficient (p value)].

### Association between socio-demographic mediator variables and EQ domains

Association between mediator socio-demographic variables (gender, parent's education, father's occupation, family type, religion, the area of residence and position among siblings) and EQ domains was done by chisquare, Fischer's exact, Independent t-test and one way ANOVA, but there was no significant association between these variables. Table 3 shows that there is a positive correlation between age and emotional competency domain, i.e. as age increases emotional competency also increases, compared to other domains and is statistically significant.

#### Table 3: Correlation between age and EQ domains.

Variable	Correlation coefficient	p value
Sensitivity	0.027	0.79
Maturity	0.044	0.68
Competency	0.22	0.04*
Total EQ	0.14	0.18

Few mediator variables which showed a significant association was mother's occupation (one-way ANOVA test) and the number of siblings (Fischer's exact test). The findings were statistically significant. In mother's occupation, the student whose mothers doing agriculture (table value-2.68, p-value-0.036) had high emotional sensitive EQ and students whose mothers in business (table value-2.76, p-value-0.033) showed more emotional competent EQ. Also, students who were having one sibling (table value-9.59, p-value- 0.012) performed well in total EQ score compared to those who have none or more than one.

#### **Regression analysis**

Multiple linear regressions were done to find which variable (age, mother's occupation and the number of siblings) is more associated with each EQ domains by regressing for others.

Table 4: Multiple linear regressions: factors associated with competency domain.

Variable	Regression coefficient	95% confidence interval	p value
Age	2.94	-5.51 to -0.37	0.02
Mother's occupation	2.31	-6.72 to 2.09	0.3
Number of siblings	1.89	-7.38 to 3.59	0.49

\*Significant p value <0.05

Table 4 shows multiple linear regression of emotional competency domain with the socio-demographic variables. Age of the participant was more significant with competency domain.

If one unit change happens in the age of the participant, competency domain score changes by 2.94 and is statistically significant. Age defines and increases understanding emotions, empathy, and communicability which in turn increases emotional competency. Regression analyses with other domains (emotional sensitivity and emotional maturity) were not statistically significant.

#### DISCUSSION

The purpose of the study was to find out whether there is any difference in scores of EQ among students excelling in dance, sports and academics and which discipline (dance, sports or academics) scores high in the field of EQ. The current situation demands more focus on EQ than IQ as the intellectual ability will not be sufficient enough for the future advancement.

In this study students scored extremely high EQ in the domains of emotional sensitivity, emotional competency and total EQ and students scored high EQ in the domain of emotional maturity. This study showed that in the

domains of maturity, competency, and total EQ, dancers' scored significantly high emotional quotient. This finding was similar to a study done in India among dancers and non-dancers which showed an increased score of emotional intelligence for dancers.<sup>13</sup> Similar results were shown by other foreign studies.<sup>14-16</sup> This can attribute to the fact that dance has a comprehensive and therapeutic effect on balancing emotions and managing the crisis. Dance also enhances the self-perception of confidence, relaxation and energy.<sup>13</sup>

With regard to sports, many studies showed that sportspersons face adversaries when competing in their respective sport and they have many opportunities to develop coping mechanisms and emotion regulation strategies.<sup>17-19</sup> Also, they possess the skill to assess and anticipate others move and perceptions in the field. So, in a way, it leads to increased emotional intelligence among them compared to the non-sports person. Studies showed that athletes scored higher on problem-solving, happiness, optimism, self-assertiveness, flexibility, selfregard independence, self-actualization, emotional selfawareness, interpersonal relationship, optimism, impulse control, and empathy subscales. Additionally, higher EI has been linked to increased performance in sports, including cricket, hockey and baseball.<sup>20-22</sup>

In a study done among bank employees in Mumbai, India using the same EQ test, the majority of the employees showed high EQ in the entire domain and showed a similar positive correlation between each domain.<sup>23</sup> This shows that as each independent domain score increases the other domain score also increases. A similar result was also found in a study between government and private organizations.<sup>24</sup>

In this study, we found that as age increases EQ also increases particularly in competency domain. This finding of increasing emotional intelligence with age was consistent with other studies.<sup>25,26</sup> This finding is relevant as age defines and increases understanding of emotions, its communicability, empathy and improves interpersonal relations.

Occupation is significant; particularly mother's, as working mother tends to have conflicts in dividing her time between works and family. Children's EQ might be different if both parents are working or only one parent is working. This was proved already in a study done in Punjab and Andhra Pradesh.<sup>27,28</sup> In this study, emotional sensitive EQ was more in students whose mothers doing agriculture and emotional competent EQ was more in student's whose mothers were businesswomen. This can be due to the fact that these children got exposed more towards an environment of empathy and emotions. Also, these children will be more flexible and adaptable towards changing the environment.

Total EQ was more among students with one sibling, which was consistent with other studies.<sup>29</sup> This can be

explained by the presence of a sibling will further increase interpersonal relationships, adaptability, less egoism and tackling emotions. Many other studies showed the reverse relationship of family size with emotional intelligence which was not significant in this study.<sup>30,31</sup> This factor can be explained by the fact of less interaction and supervision from parents in a large family structure.

This study showed that there is no gender difference in EI which is consistent with a study done in Shimla, Hyderabad, and Karnataka.<sup>31-33</sup> However, many studies, showed that there is a significant difference between genders in case of EI.<sup>34,35</sup> Few showed girls at a higher level of emotional intelligence due to the capability of being more sensitive to emotions, more awareness of their feelings, proficiency in managing their and other's feeling. The study which showed boys at a higher level of EQ claimed the reasons for increased social awareness and ability to tackle and manage feelings.<sup>36</sup>

In this study, we didn't find any association between EQ and education of parents, type of family, the area of residence and rank among siblings. This result was consistent with a study among engineering students. In contrast, there were other studies which showed education of parents influences emotional intelligence of children.<sup>28,37,38</sup> The result of independent association with an area of residence in this study is consistent with another study whereas there were other studies which proved location where they grow up and environment of living positively influence emotional intelligence.<sup>37,39</sup>

The finding of the independent association with the position among siblings is contradicted by another study conducted among adolescents in Karnataka where the middle and younger children were more emotionally intelligent.<sup>31</sup> The reason quoted was that firstborn grew alone whereas middle and younger people had a more accommodative mentality which made them self-aware about their ability and to be more empathetic.

These study results were based on the self-reported questionnaire which can lead to over-reporting or underreporting of the questions to hide the actual emotions. Qualitative component was missing which may have helped in an in-depth indulgence of issues facing the students and also the non-inclusion of many personal, family factors may have dampened the result. The selection of study subjects based on mutual exclusiveness may have failed to lead to misclassification bias.

#### CONCLUSION

Our study showed that students showed extremely high EQ in the domains of emotional sensitivity, emotional competency and total EQ and majority scored high EQ in the domain of emotional maturity. Dancers showed significantly high emotional quotient in the domains of maturity, competency, and overall EQ compared to

sportspersons and academicians. Increasing age, agriculture and business occupation of mother and presence of another sibling were significantly associated with the emotional intelligence of students. The curriculum of education should consider an effective change to focus more on emotional intelligence. There should be a clear-cut pathway to channel the emotions for the betterment of the student's future and make them learn to tackle emotions and control it.

#### **Recommendations**

This study tried to analyze EQ between disciplines and assessed which monopolies among them. The research holds significance in the field of student curriculum as to establish a role and importance for extracurricular activities. Also, study proves the importance of tackling issues and details under EQ for better performance and productivity. Action should be taken to initiate inclusion of emotional training in the field of curriculum for handling emotions better, raising confidence, self-esteem, and personality eventually to be successful without depending on IQ alone. Training for increasing EQ should start from grass root level and should also include teaching fraternities. Further analysis and continuation should be incorporated not only in student life but also in occupational settings.

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