

Association between emotional intelligence, academic performance and quality of life among dental students in Chengalpattu district - A cross sectional study

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Abstract: Background: During the dental programme, the dental students are under stress and unaware of how to handle the academics and daily basis of life which leads to emotional weakness.

Aim: To determine the association between emotional intelligence, academic performance and quality of life among dental students.

Methods: A cross sectional study among 360 dental students in Chengalpattu district. The studies administered a questionnaire consisting of databases were systematically collected which measures the association between the emotional intelligence (EI), Academic performance and Quantity of life in the year of 2025 (from June to October).

Result: No statistically significant differences were observed across age groups ($p > 0.05$) regarding several key variables. Most students, regardless of age, entered dentistry by choice and reported consistent lifestyle habits, including living arrangements ($p = 0.606$), daily exercise ($p = 0.564$), and self-care frequency ($p = 0.423$). Stress management strategies were uniform, with independent coping being the most prevalent method (18.9%) to (21.9%). Furthermore, age did not significantly impact feedback reception ($p = 0.156$), overall life satisfaction ($p = 0.228$), or the high priority placed on maintaining a work-life balance ($p = 0.955$). Satisfaction with academic/clinical performance ($p=0.027$) Perceived effect of EI on academic performance ($p=0.004$) Preferred institutional support methods ($p=0.004$)

Discussion: To better understand student behavior under pressure, dental programs should supplement rigorous training with periodic evaluations that identify specific stressor and their impact on performance".

Conclusions: Age significantly influences dental students' satisfaction with academic and clinical performance ($p=0.027$), their perceived impact of emotional intelligence on success ($p=0.004$), and preferred institutional support methods ($p=0.004$).

Consequently, dental curricula should move beyond generalized approaches to incorporate age-specific, targeted wellness programs and practical emotional intelligence training.

I. INTRODUCTION

Emotional intelligence (EI) involves the skill of identifying and interpreting emotions to better inform one's actions and reach desired outcomes. Consequently, emotional intelligence (EI) is linked to enhanced emotional well-being, which serves to improve academic performance while simultaneously reducing stress levels." (1)"This skill set includes the ability to adapt to adversity by consciously monitoring and adjusting one's emotional state."(2)Goleman (1995) further asserts that cognitive processes are inherently shaped by emotional states."According to Mustafa et al. (2016), a positive relationship exists between emotional intelligence and academic success, as students with higher EI levels tend to achieve better results."(4)Key markers of mental health include levels of stress, anxiety, and depression."(5)

EI is defined as a multi-faceted construct involving the appraisal of emotions, their role in shaping thought, the systematic understanding of emotional information, and the intentional management of one's emotional responses. (6)While academic proficiency is vital, healthcare professionals must also possess strong communication, organizational, and time-management skills to succeed in clinical practice.(7)"In fact, an individual's EI quotient is estimated to influence 80% of the variables that determine overall success."(8)While dental students must maintain high academic standards to advance, research indicates a high prevalence of psychological

distress, with 67% of final-year participants showing signs of stress and pathological anxiety."(9)

Research indicates that the transition from preclinical studies to clinical training is a significant stressor, stemming from a complex multitude of variables."Extensive research confirms that students possessing stronger EI skills navigate exam stress more effectively and maintain better overall health.(10)The development of professional competence is multifaceted, rooted in several foundational domains such as intellectual ability and individual personality profiles.(11)Emotional intelligence (EI) is fundamental to enhancing the performance of oral healthcare providers. It achieves this by utilizing socioemotional skills to strengthen doctor-patient relationships, improving decision-making and coping strategies, and fostering empathy. Furthermore, EI elevates clinical standards through superior teamwork and communication."(12)

Evaluating the QOL of dental students serves as a window into their overall life perspective and health-related attitudes. Total life quality is a comprehensive measure determined by several pillars: physical health, psychological stability, social networks, and environmental conditions." This research aimed to assess the relationship between EI, stress perception, and quality of life within a cohort of dental graduates."(13)

Birk et al. posited that emotional intelligence (EI) is a fundamental component of clinical proficiency, emphasizing its critical role in the provision of patient-centered care."(4)Students with exceptional academic achievement exhibited significantly higher emotional intelligence (EI) scores than their lower-performing counterparts."Clarifying the link between EI and performance enables academic leaders to design interventions that cultivate emotional skills. Such initiatives have the potential to boost student success and ensure better career outcomes in the clinical environment."(2) According to the literature, self-efficacy is often cited as the strongest psychosocial predictor of an individual's performance level."(4) The aim of this study is to evaluate the association between the emotional intelligence, academic performance and quality of life among dental students in Chengalpattu district.

II. MATERIALS AND METHODS

A cross sectional study was conducted over a period of June to October 2025 among dental students in Chengalpattu district.

The study tool consisted of a questions including demographic, lifestyle and professional factors. Demographic variables were name, age, gender and education status. For assessing life style factors questions encompassed sleeping pattern, exercise. Professional factors were career, relationship with colleagues /teachers and academic performance.

The sample size was estimated to be 360. A list of dental institutions in Chengalpattu was collected and students who were interested to participate in the survey were included. Individual with cognitive impairment were excluded. Information about the nature of the study was provided and the participants were assured that their responses would be confidential. Participation was voluntary. It took about 10 minutes to complete the questionnaire. Questionnaire was pretested and validated before the start of the study. Data collected via Google Forms were processed and analyzed using IBM SPSS Statistics version 23.0. Descriptive statistics summarized categorical variables, while Chi-square test was used to assess relationships between variables. Statistical significance was evaluated using Chi-square tests, with the threshold for significance set at $p < .05$ with a 95% Confidence Interval.

III. RESULT

The study cohort comprised 360 participants, the vast majority of whom were undergraduates (94.4%), while postgraduates accounted for only 5.6%. The sample was predominantly female (76.4%, (n=275) compared to male (23.6%, (n=85). In terms of age distribution, the participants were largely young; approximately half were under 20 years old (49.4%), followed by those aged 21–25 years (47.2%), with only a small fraction (3.3%) exceeding 25 years."(Table1)

A total of 360 dental students participated in the study, categorized into three age groups: <20 years, 21–25 years, and >25 years. Demographics and Lifestyle Factors The majority of participants entered the dentistry profession by choice, though this did not vary

significantly by age ($p=0.277$). Most students across all age groups reported not staying with their families every day ($p=0.606$) and admitted to not engaging in daily physical exercise ($p=0.564$).

Academic Performance and Emotional Intelligence (EI) A significant association was found between age and satisfaction with academic or clinical performance ($p=0.027$). Students in the 21–25 age group reported higher satisfaction (25.8%) compared to those under 20 (21.7%). Furthermore, there was a highly significant difference in how students perceived the impact of EI on their performance ($p=0.004$); while the majority believed EI helps them perform better, a higher proportion of students aged 21–25 (10.8%) felt it had no significant impact compared to the younger cohort (4.7%).

Stress Management and Coping Mechanisms When handling stress, the most common strategy was managing it independently (42.7% total) or seeking support from friends and family (33.3%). Regarding feedback, most students reported a growth mindset, with the majority (68.9%) listening and learning from instructor criticism ($p=0.156$). Although 41.7% of the

<20 group rated mental and physical well-being as "very important," only 6.9% of that same group practiced daily self-care. Institutional Support Students' views on how colleges can support well-being differed significantly by age ($p=0.004$). Younger students (<20 years) were more likely to favor peer support and mentorship (15.0%), whereas the 21–25 age group showed a stronger preference for increased stress management resources (30.0%).

Statistically significant differences ($p<0.05$) were observed in: Satisfaction with academic/clinical performance ($p=0.027$) Perceived effect of EI on academic performance ($p=0.004$) Preferred institutional support methods ($p=0.004$). (Table 2)

Table:1

Questions	Response	Number	Percentage
Educational status	UG	340	94.4
	PG	20	5.6
Gender	Female	275	76.4
	Male	85	23.6
Age	<20years	178	49.4
	21-25 years	170	47.2
	>25years	12	3.3

Table:2

Questions	Response	<20years n(%)	21-25years n(%)	>25years n(%)	P-value
Did you join dentistry profession by choice?	Yes	96(26.7%)	105(29.2%)	8(2.2%)	.277
	No	82(22.8%)	65(18.1%)	4(1.1%)	
Are you staying with family?	Every day	16(4.4%)	19(5.3%)	2(0.6%)	.606
	Not every day	162(45.0%)	151(41.9%)	10(2.8%)	
Physical exercise	Every day	33(9.2%)	39(10.8%)	2(0.6%)	.564
	Not every day	145(40.3%)	131(36.4%)	10(2.8%)	
How do you typically handle stress and pressure in the dental school?	I feel overwhelmed and struggle to cope	22(6.1%)	22(6.1%)	1(0.3%)	.496
	I prioritize self care activities	24(6.7%)	17(4.7%)	0(0.0%)	
	I seek support from friends and family	64(17.8%)	52(14.4%)	4(1.1%)	
	I try to manage it on my own	68(18.9%)	79(21.9%)	7(1.9%)	
How do you respond to feedback or criticism from instructors?	I get anxious and worried about my performance	32(8.9%)	20(5.6%)	0(0.0%)	.156
	I ignore it and do what I think is right	12(3.3%)	21(5.8%)	1(0.3%)	
	I listen and try to learn from it	126(35.0%)	112(31.1%)	10(2.8%)	
	I take it personally and get defensive	8(2.2%)	16(4.4%)	1(0.3%)	
	If acceptable I will take into account otherwise not	0(0%)	1(0.3%)	0(0.0%)	
How often do you takes breaks and practice self care?	Daily	25(6.9%)	36(10.0%)	2(0.6%)	.423
	Occasionally	75(20.8%)	56(15.6%)	5(1.4%)	
	Rarely	33(9.2%)	28(7.8%)	1(0.3%)	
	Several times a week	45(12.5%)	50(13.9%)	4(1.1%)	
	Neutral	95(26.4%)	65(18.1%)	4(1.1%)	

How would you rate your overall satisfaction with life as a dental student?	Some what dissatisfied	12(3.3%)	14(3.9%)	0(0.0%)	
	Some what satisfied	43(11.9%)	60(16.7%)	5(1.4%)	
	Very dissatisfied	7(19%)	7(1.9%)	0(0.0%)	
	Very satisfied	21(5.8%)	24(6.4%)	3(0.8%)	
Are you satisfied with your academic performance or clinical performance?	Yes	78(21.7%)	93(25.8%)	9(2.5%)	.027*
	No	100(27.8%)	77(21.4%)	3(0.8%)	
Do you think there's a relationship between emotional intelligence and academic performance in dental school	I'm not significant	4(1.1%)	3(0.8%)	0(0.0%)	.751
	May be	46(12.8%)	39(10.8%)	3(0.8%)	
	No	9(2.5%)	15(4.2%)	0(0.0%)	
	Yes	119(33.1%)	113(31.4%)	9(2.5%)	
How do you think your emotional intelligence affect your academic performance?	I'm not sure	53(14.7%)	37(10.3%)	1(0.3%)	.004*
	It doesn't have a significant impact	17(4.7%)	39(10.8%)	1(0.3%)	
	It helps me perform better	86(23.9%)	76(21.1%)	6(1.6%)	
	It hinder my performance	22(6.1%)	18(5.0%)	4(1.1%)	
How do you balance academic responsibilities with personal life?	I prioritize academic over personal life	37(10.3%)	30(8.3%)	2(0.6%)	.955
	I prioritize personal life over academic	8(2.2%)	11(3.1%)	1(0.3%)	
	I try to find a balance between academic and personal life	109(30.3%)	106(29.4%)	8(2.2%)	
	I'm not sure / I struggle with balance	24(6.7%)	23(6.4%)	1(0.3%)	
What do you think is the most significant factor contributing to your academic success?	Emotional intelligence	28(7.8%)	27(7.5%)	3(0.8%)	.751
	Study habits	59(16.4%)	56(15.6%)	1(0.3%)	
	Support from peers and instructors	23(6.4%)	20(5.6%)	2(0.6%)	
	Time management	63(17.5%)	67(18.6%)	6(1.7%)	
	All of the above	5(1.5%)	0(0.00%)	0(0.0%)	
What are the ways by which a dental college can support student's emotional intelligence and well being?	Encourage peer support and mentorship	54(15.0%)	24(6.7%)	2(0.6%)	.004*
	Incorporate emotional intelligence training into curriculum	31(8.6%)	36(10.0%)	0(0.0%)	
	Provide more resources for stress management	92(25.7%)	110(30.0%)	10(2.9%)	
	College tour	1(0.3%)	0(0.0%)	0(0.0%)	
How would you rate the importance of physical and mental well being in your life as a dental student?	Not at all important	1(0.3%)	0(0.0%)	0(0.0%)	.425
	Not very important	3(0.8%)	4(1.1%)	0(0.0%)	
	Some what important	24(6.4%)	37(10.3%)	3(0.8%)	
	Very important	150(41.7%)	129(35.8%)	9(2.5%)	

*Statistically significant at $p < 0.05$, Chi-square test

IV. DISCUSSION

A health profession is defined by the integration of clinical expertise with a dedicated commitment to patient service. (1) This research explores how various factors—ranging from academic characteristics to social support—impact the quality of life in undergraduate dental students, identifying gender as the only significant structural determinant."(3) Emotional intelligence was found to be a protective factor against depression, stress, and anxiety, mirroring results from earlier studies."(4)

Developing interpersonal competencies within communication classes is essential for enabling dental students to navigate stressor more successfully". "While students with low emotional intelligence frequently resort to health-damaging behaviors when stressed, those with high EI demonstrate the discernment to reject these maladaptive coping strategies."(6)The study identified indirect correlations involving poor quality of life."and academic characteristics, namely advanced semester standing and relocation. This mirrors prior research (Harris et al., 2018) suggesting that for medical students, the duration of study and distance

from one's hometown negatively impact well-being via increased anxiety and altered lifestyles."(3)

Academic stress is often intensified by a combination of inadequate coping mechanisms and stringent faculty requirements." This is often exacerbated by a lack of confidence, leading students to obsess over classmates' achievements rather than their own progress".(5)"Montasem et al. noted that these determinants extend beyond professional outcomes, simultaneously influencing the development of students' everyday personal competencies."(7)

In this study, academic performance was evaluated through various assessment methods, including written assignments, exams, and clinical evaluations. Our findings confirm a significant relationship between emotional intelligence (EI) and academic success, mirroring results from previous research. Specifically, we analyzed EI as an independent variable to determine its direct influence on student performance. (8)

Despite clinical proficiency and academic expertise, suboptimal communication remains a primary driver of patient dissatisfaction in dentistry."(9) "Beyond identifying personal factors that influence EI, this study advocates for a multi-faceted approach to dental education. This includes expanding research into EI precursors, offering skill-building workshops, and embedding emotional competencies into the formal curriculum. Furthermore, since EI is vital for academic and professional performance, it should be a consideration in admissions and hiring. Notably, promoting EI may also encourage healthier lifestyle choices among students."(8) Clinical course evaluations utilize written assignments, examinations, and clinical assessments. These evaluations demand advanced interpersonal competencies—such as empathy, active listening, and effective communication—to mitigate patient anxiety and align expectations. Mastering these skills is vital for enhancing patient health outcomes, satisfaction, and long-term adherence to treatment protocols. (10) The psychometric validity and cross-cultural applicability of EI measurement tools are subject to significant international and regional variation"(11) The heightened impact of EI on academic performance during dental training underscores the necessity of

integrating emotional skill-building throughout the longitudinal curriculum."(12)

The results of this study demonstrate a notable lack of age-based divergence regarding the sociodemographic and lifestyle characteristics of dental students. The absence of statistically significant differences ($p>0.05$) across age groups suggests that the dental school experience—and the motivations driving it—remains relatively homogenous regardless of a student's life stage. Consistency in Motivation and LifestyleA primary finding was that the majority of students, irrespective of age, entered the dental profession by choice. This internal motivation is critical, as it often serves as a buffer against the rigours of clinical training. Furthermore, the stability in lifestyle variables—such as living arrangements ($p=0.606$), daily exercise ($p=0.564$), and self-care frequency ($p=0.423$)—indicates that age does not necessarily confer a superior ability to maintain personal wellness routines within the demanding dental curriculum. These findings suggest that the institutional environment may exert a stronger influence on student lifestyle than individual age or life experience. Uniformity in Stress Management. The prevalence of independent coping as the primary stress management strategy (ranging from (18.9%) to (21.9%)) across all age groups is particularly revealing. While independence is a valuable trait in clinical practice, the reliance on solitary coping mechanisms may indicate a perceived or actual lack of social support or formal wellness interventions within the program. The fact that older students, who might be expected to have more diverse life experiences, did not employ significantly different strategies suggests that the stressors of dental education are unique and may narrow the range of perceived coping options. Life Satisfaction and Professional FeedbackThe lack of age-related significance regarding feedback reception ($p=0.156$) and overall life satisfaction ($p=0.228$) challenges the assumption that older students might possess greater emotional resilience or a different perspective on professional criticism. Furthermore, the near-universal priority placed on work-life balance ($p=0.955$) across all cohorts reflects a modern shift in professional values. This highlights a collective awareness of burnout, suggesting that current dental students, regardless of

age, view personal well-being as inseparable from professional competence.

V. CONCLUSION

The study highlights that while the majority of dental students acknowledge the importance of Emotional Intelligence (EI) and mental well-being, there is a significant disconnect between their perceptions and actual self-care practices. A critical gap exists in physical activity and daily self-care, particularly among the youngest students. Furthermore, students' needs evolve as they progress through their education: younger students prioritize peer mentorship, whereas older students seek structured institutional stress management resources.

Statistically significant differences across age groups regarding academic satisfaction and the perceived impact of EI suggest that dental curricula should move beyond a "one-size-fits-all" approach. Institutions should implement age-specific support systems and integrate practical EI training to improve clinical performance satisfaction and foster long-term resilience in future dental professionals.

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