

Assessment of Relationship between Dental Anxiety with Personality Traits among Medical and Dental Students in an Institute, Bangalore- A Cross Sectional Study

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ABSTRACT

Aim: To assess the relationship between Dental Anxiety and Personality Traits among Medical and Dental students. **Settings and Design:** A cross sectional analytical study was conducted in medical and dental institution in Bangalore. **Methods and Material:** The study was conducted among 498 undergraduate medical and dental students using a 21 item, self-administered questionnaire. The questionnaire consisted of three parts a) Information on demographic details, b) Modified dental anxiety questionnaire consisting of 5 questions and c) Revised Eysenck personality scale consisting of 16 questions for personality assessment. **Statistical analysis:** Statistical analysis was done using Pearson's correlation to assess the correlation between Dental Anxiety and Personality Traits. **Results:** In the present study, Severe levels of anxiety was found among 23.2% of medical students as compared to 2.75% for dental students. On investigating Personality Traits of the Study Subjects, 37.07% were under extraversion category, 23.74% were under neuroticism, 3.42% were under lie scale and 34.79% were under mixed personality traits. There was a positive correlation found between Dental Anxiety and Personality Traits. **Conclusion:** Dental anxiety is a major determinant of one's general predisposition towards dental-health interactions and is dependent on the Personality traits of an individual.

Keywords: Dental Anxiety, Personality Traits, Relationship, Medical, Dental.

Over the last decade the demand for dental services has increased, mostly due to increased awareness among the public of the consequences of poor dental health. Alongside this increase in demand of dental services, there has been a proportional increase in the number of

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people who experience symptoms ranging from dislike to phobia regarding dental treatment (George C et. Al in 2003).

Fear is described as an apprehensive and uncomfortable feeling. Dental fear refers to the fear of dentistry. Anxiety is defined as ‘a state of apprehension resulting from the anticipation of a threatening event or situation’. Anxiety is an emotion that is distressing. Anxiety is related to personal salience as a product of personality variables that shapes the perception of "self" and the other world. (Jordanova et. Al in 2013). However, such everyday anxiety is generally occasional, mild and brief, while the anxiety felt by the person with an anxiety disorder occurs frequently, is more intense, and lasts longer—up to hours, or even days. (Sourabha K.G et al in 2013) .

The origin of dental anxiety has been found in different ages, the etiology differing with the age groups. The major causes have been related to various psychoanalytic, behavioral and conditional attributes of the individual. (Hathiwala S et al in 2015). Personality is the characteristic behavior response pattern that each person develops, both consciously and unconsciously, as his or her style of life.³ The predominant model of personality, in current psychological research, is the 5-factor model which divides personality into 5 traits: (a) openness to experience, (b) conscientiousness, (c) extraversion, (d) agreeableness and (e) neuroticism. Studies have shown that Neuroticism and extraversion are the two traits that are predominantly related to Dental Anxiety.

In the investigations of dental anxiety since the 1960s, the occurrence of dental anxiety has been attributed to many factors: personality characteristics; traumatic or painful dental experiences in childhood (conditioning experiences); learned attitudes toward dental services that elicit fear from dentally anxious family members or peers (vicarious learning/modeling); perception of body image; blood-injury fears; coping styles (vigilant, avoidant, and emotion focused); and pain reactivity. Studies that examined the Big Five personality traits (openness, conscientiousness, extroversion, agreeableness, and neuroticism) found that neuroticism exhibits a significant correlation with dental anxiety (George C et. Al in 2003).

Anxiety related to dental treatment is not only puzzling for patients, but it is also a major source of worry for dental practitioners to treat anxious patients. There is now ample evidence suggesting that the physiological stress indicators like increased blood pressure, elevated heart rate, and so on which dentist experiences are equal to the responses of the patients when procedures are being performed. One important group is the university students, who are future healthcare providers. Therefore, it is necessary for these students to learn about the techniques that can help them to overcome their own dental anxiety. A decrease in their anxiety levels would make them confident clinicians, who could in turn treat their patient's well⁵. So this study was conducted with an aim to investigate the relationship between Dental Anxiety and Personality traits among Medical, and Dental students.

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METHODOLOGY

Procedure

A cross sectional study was carried out among 498 third year, final year undergraduate students and interns of Vydehi Institute of Medical and Dental sciences, Bengaluru. A list was obtained for total number of students from third year, final year and interns of medical and dental stream. Out of 560 students, students who gave the consent and who were present on the day of administration of questionnaire were included for the study and who were under treatment of any psychiatric disorders were excluded. The sample size was retained to 498. The students from medical stream were 353 and dental stream were 145. The study was done for a duration of one month through September – October 2017. The study proposal was approved by institutional review board of Vydehi Institute of Dental Sciences and Research Centre, Bangalore. Convenient sampling method was implemented for the study. The purpose and details of the study was explained to the study participants and a written consent was then obtained from them.

Questionnaire design

The questionnaire used was close ended, self-administered which consisted 21 questions of which 5 were to assess the dental anxiety and 16 were to assess the personality of the participants. The questionnaire was in English. It consisted of three parts.

- 1) The demographic details were gender, age, area of specialization, year of studying.
- 2) The second part of the questionnaire consisted Modified dental anxiety questionnaire measure dental anxiety. The MDAS asks the patients to score their level of anxiety with respect to five dental situations using a five-point likert scale (1 = not anxious to 5 = extremely anxious).
- 3) Personality traits was assessed by Revised Eysenck Personality questionnaire. The EPQ- Scale was modified for the ease of answering it consisted of 16 questions, 4 questions for each personality trait.

The face and content validity of the 21-item questionnaire was checked by expert members. Test-retest was used to check the reliability. Cronbach's alpha value of 0.80 suggested good internal consistency of the questionnaire. The questionnaire was given to the students; sufficient time was given to fill the forms and was collected back on the same day. The Statistical software SPSS 22.0 was used for the analysis of the data and Microsoft word and Excel have been used to generate graphs, tables etc. Statistical analysis was done using Pearson's correlation to see the correlation between dental anxiety and personality traits.

RESULTS

The age of the participants ranged between 20 and 26 years (average 23 years) and majority were females 301 (61.59%). (Table 1)

Table 1: Distribution of Study Participants Based On Their Profession

	MEDICALn(%)	DENTALn(%)	
MALES	161(81.72%)	36(18.27%)	197(39.56%)
FEMALES	192(63.78%)	109(36.21%)	301(61.59%)
TOTAL	353	145	498

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In the study, among medical students 82(23.23%) were not anxious, 189(53.54%) were mildly anxious, 82(23.23%) were severely anxious. Among dental students, 72(49.65%) were not anxious, 69(47.6%) were mildly anxious, 4(2.75%) were severely anxious. (Table 2)

Table 2: Distribution of Study Participants Based On Their Dental Anxiety Levels

	MEDICAL n(%)	DENTALn(%)	TOTAL
NO ANXIETY	82(23.23%)	72(49.65%)	154(31%)
MILD ANXIETY	189(53.54%)	69(47.6%)	258(51.8%)
SEVERE ANXIETY	82(23.23%)	4(2.75%)	86(17.2%)
TOTAL	353(100%)	145(100%)	498

In the study, out of the total medical students who were Extroversive (147), 44(29.93%) were found to be non- anxious, 81(55.10%) were found to be mildly anxious, 22(14.97%) were severely anxious. Under Neuroticism category, 20(30.77%) were found to be non- anxious, 27(41.54%) were found to be mildly anxious, 18(27.69%) were severely anxious. Under Psychotocism category, 01 was found to be mildly anxious (Table 3)

Table 3: Distribution of Medical Students Based On Their Dental Anxiety and Personality Traits

	NO ANXIETY n(%)	MILD ANXIETY n(%)	SEVERE ANXIETY n(%)	TOTAL
Extraversion	44(29.93%)	81(55.10%)	22(14.97%)	147
Neuroticism	20(30.77%)	27(41.54%)	18(27.69%)	65
Lie scale	01(11.11%)	05(55.55%)	03(33.33%)	09
Psychotocism	-	01	-	01
Mixed	22(16.79%)	79(60.31%)	30(22.90%)	131
TOTAL	87	193	73	353

In the study, out of the total dental students who were extraversive (39), 21(53.84%) were found to be non-anxious, 15(38.47%) were found to be mildly anxious,03(7.69%) were severely anxious. Under Neuroticism category, 26(48.15%) were found to be non- anxious, 23(42.60%) were found to be mildly anxious, 05(9.25%) were severely anxious. Under Psychotocism category, 01 was found to be severely anxious (Table 4)

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Table 4: Distribution of Dental Students Based On Their Dental Anxiety and Personality Traits

	NO ANXIETY n(%)	MILD ANXIETY n(%)	SEVERE ANXIETY n(%)	TOTAL n(%)
Extraversion	21(53.84%)	15(38.47%)	03(7.69%)	39
Neuroticism	26(48.15%)	23(42.60%)	05(9.25%)	54
Lie scale	04(50%)	04(50%)	-	8
Psychotocism	-	-	1	01
Mixed	18(41.87%)	16(37.20%)	09(20.93%)	43
TOTAL	69	58	18	145

There was a negative correlation between extraversion and dental anxiety(-0.032), and a positive correlation between neuroticism and dental anxiety(0.025), lie scale and dental anxiety(0.002), psychoticism and dental anxiety(0.061). (Table 5)

Table 5: Correlation of Dental Anxiety with Personality Traits

	Extraversion	Neuroticism	Lie scale	psychoticism
r	-0.032	0.025	0.002	0.061

DISCUSSION

In the present study, the number of female participants ((61.59%) were found to be higher than male participants (39.56%).The study showed levels of severe anxiety was more among medical students (23.2%) when compared to dental students (2.75%) also the levels of mild anxiety was more among medical students (53.5%) when compared to dental students (47.5%) and levels of no anxiety was seen more among dental students (49.6%) when compared to medical (23.2%) .These findings are in accordance with the study conducted by Gunjal S. et al in 2017. The reason for high anxiety scores in nursing students compared to medical students may be due to lack of dental awareness education among nursing students while the medical students are supposed to be more familiar with stress management related to health measures.

The findings are also consistent with the study conducted by Thomas M et al in 2016 which aimed at finding dental anxiety among Dental, Medical and Nursing students showed low levels of dental anxiety among dental students when compared to medical and nursing students.

In the present study it was observed that as there is positive correlation between Neurotocism, Psychoticism and Dental anxiety, i.e the neuroticism and psychoticism behavior traits were positively related to dental anxiety, but no statistically significant difference exists amongst the traits (Psychoticism, Extraversion, Neurotocism) in relation to Dental Anxiety. Also, there was a negative correlation found in this study between Extraversion and Dental anxiety, which is suggestive of people who are extraversive and lively tend to have lesser

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dental anxiety levels. This was consistent with the previous studies done by Sourbha K.G. et al in 2013.

Neuroticism is a relatively stable, enduring aspect of the personality. Individuals who score high on this trait tend to experience more negative affect, such as anxiety, fear, sadness, embarrassment, and guilt. Psychoticism scores display tendencies to developing psychotic disorders while at the same time falling short of actual psychotic conditions. Persons with high P scores are inclined toward being cruel, inhumane, socially indifferent, hostile, aggressive.

These findings lend support to the aforementioned rationale that only the sub-concepts of distressed thinking and transference of generalized anxiety from neuroticism and psychoticism were strictly related to dental anxiety. The findings also provided further support to the establishment of personality as a legitimate factor contributing to the multidimensionality of dental anxiety (George C. et al in 2003)

This study was the first attempt to assess the relationship between Dental Anxiety and Personality Traits among healthcare students. It showed that the personality parameters were important moderators, if not a complete explanation for the dental anxiety. It highlighted the importance of inculcating a preventive approach in dental practice. It also suggested that imparting knowledge to dental students for psychological assessment

CONCLUSION

Evidence supports personality meriting its own niche as part of the complex of conditions that elicit fear and anxiety during dental interactions. Dental anxiety is a major determinant of one's general predisposition towards dental-health interactions and is dependent on the Personality Traits of an individual.

REFERENCES

- Aboalshamat K, Hou XY, Strodl E. Psychological well-being status among medical and dental students in Makkah, Saudi Arabia: A cross-sectional study. *Medical Teacher* 2015;37:75-81
- Alshammary MAA, Alhumaid MEM, Alnejeem GSE, Osman MAK. Dental anxiety among medical field students in University of Hail, Saudi Arabia. *Sch. J. Dent. Sci.*, 2017; 4(6):291-296.
- Arab M, Rafeifi H, Safarizadeh MH, Ahmadi JS, Safarizadeh MM. Stress, anxiety and depression among medical university students and its relationship with their level of happiness. *J of Nurs and Health Sci* 2016;5(1):44-47
- Basudan S, Binanzan N, Alhassan A. Depression, anxiety and stress in dental students. *Int J Med Ed.* 2017;8:179-186.
- Chilukuri H, Bachali S, Naidu NJ, Basha AS, Selvam SV. Perceived stress amongst medical and dental students. *AP J Psychol Med* 2012;13(2):104-107.

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- Doganer YC, Aydogan U, Yesil HU, Rohrer JE, Williams MD, Agerter DC. Does the trait anxiety affect the dental fear? *Braz. Oral Res.* 2017;31-36.
- Dudau DP, Sfeatcu IR, Funieru C, Dumitrache MA. Professional stress in relation to anxiety, depression and irrational beliefs among dental and psychotherapy students. *Procedia Soc Behav Sci* 2015;187:158-162.
- Elani HW, Allison PJ, Kumar RA, Mancini L, Lambrou A, Bedos C. A systematic review of stress in Dental students. *J of Dent Ed* 2014;78(2):226-242.
- Fuentes D, Gorenstein C, Hu LW. Dental anxiety and trait anxiety : an investigation of their relationship. *British Dent J* 2009;206:1-3.
- George C. Dental Anxiety and Personality: Investigating the Relationship Between Dental Anxiety and Self-Consciousness. *J Dent Educ.* 2003;67(9):970-980..
- Gunjal S, Pateel DGS, Parkar S. Dental Anxiety among Medical and Paramedical Undergraduate Students of Malaysia. *Int J Dent* 2017:1-5
- Hathiwala S, Acharya S, Patil S. Effects of personality on dental beliefs. *Journal of Indian Society of Pedodontics and Preventive Dentistry* 2015;33(2):1-9
- Jankovic SM, Aleksic D, Bahtijari Z, Jelic A, Klacar J, Kovacevic A et al. Risk factors for severe dental anxiety among medical students. *Vojnosanit Pregl* 2014;71(1):16-21.
- Jordanova NP, Sarakinova O, Simoska SM, Loleska S. Anxiety and personality characteristics in children Undergoing dental interventions. *Contributions. Sec. Med. Sci.* 2013;34(3):93-103.
- Kunwar D, Risal A, Koirala S. Study of depression, anxiety and stress among the medical students in two medical colleges of Nepal. *Kathmandu Univ Med J* 2016;53(1):22-6.
- Madfa AA, Amran AG, Sanabani FA, Alhadj MN, Quidami NH, Malahy NA et al. Prevalence of dental anxiety and fear among medical students at University of Thamar. *Am J of Health Res* 2015;3(1-2):5-9.
- Meshram S, Gattani D, Shewale A, Bodele S. Association of Personality Traits with Oral Health Status: A Cross-Sectional Study. *The Int J of Ind Psychol* 2017;4(2):61-71
- Murphy RJ, Gray SA, Sterling G, Reeves K, Ducette J. A Comparative Study of Professional Student Stress. *J Dent Ed* 2009;73(3):328-337.
- Nayan NAM, Daud AZC, Jamaluddin TBT, Talib SS. Perceived Depression, Anxiety and Stress Among UiTM Dental Undergraduates in Clinical Years. *Environment – Behaviour proceedings Journal* ;2017:81-86.
- Negra JS, Paiva SM, Oliveira M, Ferreira E, Maia FF, Pordeus I. Self-reported Dental fear among Dental students and their Patients. *Int. J. Environ. Res. Public Health* 2012;9:44-54.
- Obarisiagbon A, Azodo CC, Omoaregba JO, James BO. Clinical anxiety among final year dental students: The trainers and students perspectives. *Sahel Med J* 2013;16(2):64-70.
- Rector NA, Bourdeau D, Kitchen K, Massiah LJ. Anxiety disorders- An information guide. CAMH publishers; 2008. p. 1-37.
- Sharma B, Wavare R. Academic stress due to depression among Medical and Para-medical students in an Indian Medical College: health initiatives cross sectional study. *J Health Sci* 2013;3(5):29-38.

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- Sourabha KG, Puranik MP. Association of Dental anxiety with personality traits among Engineering students in Bangalore city-A Questionnaire study. *JIAPHD*. 2013;11(1):13-17.
- Thomas M, Kumar V, Sooraparaju SG, Mathew T, Kumar A, Ealla KKR. Dental Anxiety among Dental, Medical, and Nursing Students in India and Its Correlation with Their Field of Study. *J of Int Oral Health* 2016;8(8):860-864.
- Uliaszek AA, Zinbarg RE, Mineka S, Craske MG, Sutton JM, Griffith JW et al. The role of Neuroticism and Extraversion in the Stress – Anxiety and Stress- Depression Relationships. *NIH* -2010;23(4):363-381.

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Conflict of Interest

There is no conflict of interest.

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