

ACADEMIC PERFORMANCE IN DENTAL PROFESSION: A COMPARATIVE STUDY

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ABSTRACT

This study was done to assess the impact of personality type, anxiety, depression, and stress on the academic performance of students and to determine the impact of psychological profile on academic performance. It was a cross-sectional study conducted in the dental college of Peshawar. The sample size was 256, final year dentistry students, (03 batches from the year 2017-2019). Informed Consent was taken from the participants. Depression, anxiety, and stress along with personality type, and study hours, were assessed for data collection to see the performance of the students according to their failure and success. The students' depression, anxiety and stress were scored by using DASS-21 and Type-A and Type-B personality was assessed through Jenkins's activity survey. Students were asked to mention their study hours in the demographic Proforma. Success and failure were documented through academic records. Analysis was done on the data in SPSS-23. This study revealed that depression, anxiety, and stress were associated with the success or failure of the students (p-value of <0.005). The success rate was more in Type A personality (78.6%) rather than in Type-B (63.1%) with a p-value<0.05. Most of the students having type A personality studied for more than 3hours per day. Students who studied for less than 3 hours were associated with failure (p-value<0.05). Students with low levels of stress and anxiety but a high level of depression were the most successful. Students with type A personality were more successful in their exams and demonstrated a better academic performance in comparison to type B.

Keywords: Professional Examination, Failure, Personality, Medical Education, Depression, Stress and Anxiety, Success

This article may be cited as: Shehzad S, Waheed Z, Kabir SK, Butt H, Tahir F, Durrani SH. Academic performance in dental profession: a comparative study. Pak Oral Dent J 2022; 42(1):44-47.

INTRODUCTION

Education is defined as the systematic process of acquisition of knowledge, skills and values.¹ Nowadays, education is more than the acquisition of knowledge; it is also about helping the individual to reach his maximum potential, both personally and professionally. The

academic success of the students is assessed through grades assigned to coursework that is dependent on multiple factors including personal background, stress levels, ability to cope with stress which is highly dependent on the personality type of students.² Dental education is considered to be one of the extremely stressed environments due to the highly competitive atmosphere, frequent examinations and patient dealing at dental schools.³ Dental students are expected to perform well both clinically and academically which in turn enhances their stress levels.⁴ Multiple factors affect academic performance and learning that can be influenced by personality IQ, family background, gender, age, lifestyle, stress, depression, anxiety, learning styles, methods of study and study hours, parental and peer pressure.^{1,5} The psychological well-being of dental students is a relatively debatable issue. There are ample studies to support the fact that personality type can play a role of precursor in academic performance.⁶⁻⁸ This psychological well-being of students affects their quality of life and health outcomes. The personality of individuals can be categorized into type A and type B. Type A personality is characterized by high-stress individuals

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Received for Publication: Apr 24, 2021
First Revision: Jun 12, 2021
Second Revision: Sep 17, 2021
Approved: Oct 2, 2021

with time urgency, impatience, and hostility. They are ambitious, rigidly organized, highly status-conscious and impatient. Type B personality individuals are characterized by stress-free behavior, they may poor sense of time schedule and can be predominately right-brained thinker.⁹The rationale of this study is to focus on the impact of psychological profile on the academic performance of dental students in our region. It will also encourage the higher education department to improve the teaching methodologies to overcome the deficiencies face by students of different personality types. It will also help the students to overcome the stress, depression and anxiety and reassure them to improve their performance that will have a positive influence. The objective of the study was to find the influence of anxiety, depression, stress, and personality type on the academic performance of students. To assess the impact of financial issues and teaching modality on the academic performance of students

METHODOLOGY

A cross-sectional descriptive study was conducted among final year BDS students at Sardar Begum Dental College, Peshawar. A total of 256 students were included in the study from 2017-2019 after obtaining ethical approval from the ethical committee, Gandhara University. In this study 168 were successful in examination and 88 experienced failures. The academic record was taken from the administration of the college for research purpose. All final year BDS students were included in the study irrespective of their academic record. The students who left the college during the session or did not attend college for six months were excluded from the study. Data was collected using a structured interview; a pre-validated scale DASS-21 (depression, anxiety, and stress scale) was used. The reliability of Cronbach’s alpha values for the subscales of depression, anxiety and stress respectively were 0.81, 0.89 and 0.78.¹⁰ The student was asked to score every item on a scale from 0 (did not apply to me at all) to 3 (applied to me very much). Mild (>6 depression, >5 anxiety, >9 Stress), moderate (7-10 depression, 6-7 anxiety, 10-12 stress) and severe (<13 depression, <8 anxiety, <13 stress) scores were reported respectively.¹¹ Jenkin activity survey (JAS) was used to assess Type A and B Personality whose low scores indicate Type B personality and high scores Type A personality. The scale comprised 20 items with a reliability of 0.86.¹² In the demographic Performa students were asked about the study hours. SPSS- 23 was used to enter and analyse the data. A Chi-square test was used to find the association of levels of stress, anxiety, depression, and personality types with the academic performance of students. A P-value of 0.05 or less will be considered significant.

RESULTS

The study included a total of 256 dental students of final year from the year 2017-2019 out of which 120 were males and 136 were females. One hundred and sixty-eight students passed their exam in the first attempt. The success and failure were assessed in these students regarding their performance due to the factors; stress, anxiety, depression, study hours, mode of teaching and student-teacher interaction and financial aspect.

Association of gender with success and failure was not statistically significant with p value >0.005 as shown in table I. Personality type was found to be significantly associated with success and failure of the students. Type B students had greater success and failure as compared to Type A students as shown in Table II. Success and failure of students were significantly associated with the study hours with more success in students who study 4-7 hours as shown in table III.

Association of depression, anxiety, and stress with the academic performance of students is depicted in Figure I. students with low stress levels have higher success rate as compared to high stressed students. Similarly, students with low anxiety levels have higher success rate as compared to students with high stress level.

DISCUSSION

Personality as well as gender of students have been known to influence the academic and clinical success of dental students due to their impact on general and mental health of individuals and because the students vary in their personality traits and in the way they interpret information, their performance and achievements are expected to differ.¹³ It has been reported in the past that a higher percentage of males (46.7%) had GPA below 4 in comparison to 1.7% females.¹³ According to our study there was no significant difference between a student’s academic performance and gender. The same study also studied the influence of personality traits on the academics of the students and reported that among the female students the trait of agreeableness and grade point average (GPA) had a significant but

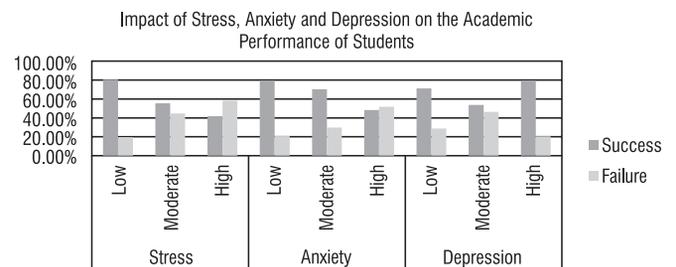


Fig 1: Association of depression, anxiety, and stress with the academic performance of students

TABLE 1: CROSS-TABULATION OF GENDER WITH SUCCESS AND FAILURE

Gender	Success	Failure	Total	P-value
Male	81	39	120	0.552
Female	87	49	136	
Total	168	88	256	

TABLE 2: CROSS-TABULATION OF PERSONALITY WITH SUCCESS AND FAILURE

Variables		Success	Failure	Total	P-value
Personality	Type A	33(78.6%)	9(21.4%)	42(100%)	0.02
	Type B	135(63.1%)	79(36.9%)	214(100%)	

TABLE 3: ACADEMIC FACTORS AFFECTING STUDENTS' PERFORMANCE

Variables		Success	Failure	Total	P-value
Study hours	0-3hrs	50(47.2%)	56(52.8%)	106(100%)	0.01
	4-7hrs	118(78.7%)	32(21.3%)	150(100%)	

negative correlation ($r_{s} = .236$, $p=0.05$) while in case of male students no personality trait had a significant association with their grade point average (GPA), but extraversion had a negative correlation with their academic performance.¹³

The present study has reported that the greatest percentage of students (80.4%) who succeeded in their exam demonstrated low stress level while the greatest percentage of students who failed their exam underwent high stress. These results were in compliance with another study conducted in China which reported a negative correlation of Grade point average (GPA) and the stress scores ($r = -0.119$, $P = 0.029$).⁴ The negative influence of stress on academic performance can be due to the deteriorating impact on mental and physical health it has that ultimately leads to a student's inability to perform well in studies.⁴ A similar trend was observed with respect to levels of anxiety where it was seen that most students with high level of anxiety (51.8%) failed their exam while the greatest percentage of students (79.2%) who succeeded in their exam had low levels of anxiety. This can be attributed to the fact that anxiety leads to lack of ability to focus on studies and perform well in exams. Anxiety also leads to lack of communication with teaching staff.¹⁵

It was also seen that the highest percentage of students (79.4%) with high level of depression were successful in their exam. The results of our study are compliant with another study conducted on graduate medical residents which reported that a vast number of these residents faced problems like job resignation, disruption of family life, removal from the residency program due to the psychiatric problems like anxiety and depression.¹⁴ Research studies have reported that the academic success and failure of students is also

effected by factors which include age, gender and teaching modalities employed, status of employment and learning environment.¹⁶⁻¹⁸

Limitations

The inclusion of dental students from all years of Bachelor of Dental Surgery might yield different results concerning the stress, anxiety, and depression levels they have and its subsequent impact on their academic performance.

Recommendation

It is of immense importance that students are provided with an environment that is promotes learning. There should be proper student counselling sessions that help students relieve their stresses and sharing their problems with the teachers. Furthermore, the various personality types of the students should also be considered while teaching and assessing them.

CONCLUSION

Students with low levels of stress and anxiety but a high level of depression were the most successful. Students with type A personality type were more successful in their exams and demonstrated a better academic performance in comparison to type B.

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