Association between the DISC Personality Index and Academic Performance (GPA) of Dental Students in a Private Saudi Dental School

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Abstract

Background: The importance of understanding the student's individual personality is very essential to their performance in education. **Aim:** The study is aimed to find an association between the DISC personality index and Academic performance (GPA) of dental students in a private Saudi Dental School. **Material and Methods:** This is a cross-sectional study which has a study sample frame of all the students from the Dentistry program. There was a standardized and validated questionnaire used for the collection of the data. The quality of DISC assessment questionnaire was confirmed through evidence-based information. All the students were invited to participate in the study and the questionnaire was distributed electronically through the class groups. **Results:** The percentage responses in order are 56.2% Dominance, 27.4% Influence, 6.4% Steadiness and 10% Conscientiousness. **Conclusion:** The study concludes that the students have responded to have shown Dominance as the most dominant personality type and Steadiness as the least expressed personality type. There was an association found between the type of personality and gender, year of study and their GPA.

Keywords: DISC, Dental students, GPA, Personality index, Dental school

Introduction

There is an increasing percentage of students facing academic difficulty and the factors that influence their performance are of significant interest. [1] The importance of understanding the student's individual personality is very essential to their performance in education. [2,3] As the literature review suggests that non-performance-based factors such as self-efficacy, test anxiety and personality may be associated with academic achievement. [1,4-6] A most commonly used personality test is the DiSC personality test. It stands for the four elements of personality type and it measures: Dominance, influence, Steadiness and Conscientiousness. [7,8] The DiSC assessment was constructed to be used for people to describe themselves. The description of DiSC as per the DiSC profile [9] is as below:

D: Dominant: Directness and control (The people who show these characteristics are dominant and enjoy taking responsibility)

I: Influence: Friendly personality (The people who are usually associated with a friendly personality; open to other people/ usually practicing effective social skills, and they enjoy collaborating in groups and relating to others)

S: Steadiness (The people who take a consistent and steady approach to life they play a supportive role and exercise a genuine interest in the problems and feelings of others)

C: Conscientiousness (The people are described to be a critical thinker who is detail-oriented, organized and concerned with accuracy and they value structure and need time and information to make decisions)

The DiSC profile helps to identify an improved sense of when and why is it crucial to adjust behavior to make a very successful connection with others. [3] Dental faculties may assess and recognize the DiSC style and prepare to communicate with the students which may bring a greater success in motivating the students. [10]

The authors took this scenario as an excellent opportunity to find an association between the DISC personality index and Academic performance (GPA) of dental students in a private Saudi Dental School.

Materials and Methods

Methodology

This is a cross-sectional study which has a study sample frame of all the students from the Dentistry program. The Dentistry specific curriculum starts from 2nd year to the internship. All the students from 2nd year to Internship were included in the study. The ethical approval was given by the ethical committee of Ibn Sina National College for Medical Studies. Data was collected in the form of a questionnaire which included the socio demographic details of age and gender, year of study, GPA of the student and the DISC personality test questions. The DISC personality test consisted of 28 groups of four statements each. From each group one trait which was most like the participant

and one trait which was least like them had to be chosen. There was no concept of right or wrong in the test it was only to make the best decision. The highest percentage is likely to be the respondent's most dominant personality factor, the second highest the next most dominant factor and so on.

Data collection procedure

There was a standardized and validated questionnaire used for the collection of the data. The quality of DISC assessment questionnaire was confirmed through evidence-based information from Roodt K, AlShehri and DiSC profile [3,9,11]. Alshehri [3] had used the questionnaire on the medical students in KAU, Saudi Arabia. The data was collecting during the month of September 2020. All the students were invited to participate in the study and the questionnaire was distributed electronically through the class groups.

Statistical analysis

The statistical analysis of the data entered into the excel sheet was done by SPSS version 23. Numbers and percentages were calculated for descriptive analysis. Chi square test was calculated to assess the associations between the variables. The probability p value of <0.05 was considered as statistically significant in the study.

Results

The current study has examined the relationships between sociodemographic details which is age and gender of the students to their personality assessed by the DISC questionnaire. All the responses of the students were collected and analyzed. Distribution of the participant responses on personality types DISC is tabulated in [Table 1]. The percentage responses in order are 56.2% Dominance, 27.4% Influence, 6.4% Steadiness and 10% Conscientiousness. The associations between the variables were assessed using chi-square test and is elaborated detailed in [Table 2].

Discussion

The current study was aimed at assessing the type of personalities of the students and the association with sociodemographic details, year of study and GPA of the student. The study suggested that D type was the most dominant personality trait and S type was the least dominant trait as per the student's responses. There was a statistical association found between the type of personality and gender, year of study and their GPA.

The study by Al Shehri et al. [3] suggest that the personality of medical students at KAU is C type and on the other side the least common personality type found among the students was I type.

Al Shehri et al. [3] have found no relationship between gender or GPA with the personality type. These results suggest that only few personalities of the students fit appropriately into the field of Medicine. This study also showed no association between

Table 2: Association between the independent variables and type of personality responded by the students.

Variable	Chi square value	p value
Age	30.355	0.448
Gender	9.965	0.019
Year of study	31.595	0.007
GPA	387.451	0.001

performance student gender and personality type and attributed it to the belief that some of the students present in certain societies.

In the study by Wieltholter et al. [1] the cohort of first year pharmacy students also no association were found between personality style and academic performance. While there was no significant difference found it as a crucial information as it provides an important contribution to non-performance-based factors on academic achievement.

In contrast to another study completed on undergraduate and medical students and notably DiSC assessment has been positively associated with conscientiousness. [12-17]

Higher perceived efficacy, discrepancy between the students actual performance and the expected performance, academic competence have found to be associated with higher academic performance in the students. [18-22] Students do not have clarity in goals and objectives in completing their graduation in Dentistry. [22,23] Students should be prepared to set their SMART objectives and not deviate when working towards them as early identification of the various non-performance- based factors would aid them in planning their course of study without having any roadblocks.

A full in-depth analysis is recommended into the various complex factors affecting the students' academic performance as it may pave a gateway towards preparing the students newly joining into professional courses like Dentistry. And early interventions into the student's routine may benefit them academically to perform better. The limitation of the study was collection of information from only students from Dentistry program. It can be extended to other programs in the Medical field.

In the recent months the COVID 19 pandemic has created a lot of irregular waves in the field of education. [24] There is a high uncertainty owing to the pandemic. [25] Numerous and critical difficulties have arisen as a result of the pandemic for individuals, communities and individuals. Students have faced a disruption to their education. The means of delivering dental education for the students during this pandemic has changed. [26] So the results have to be considered keeping in view this situation.

Conclusion

The study concludes that the students have responded to have shown Dominance as the most dominant personality type and Steadiness as the least expressed personality type. There was an association found between the type of personality and gender, year of study and their GPA.

Acknowledgement

Table 1: Distribution of the participant responses on personality types DISC.

Dependent Variable	D	I	S	C
Number	123	60	14	22
Percentage	56.2%	27.4%	6.4%	10.0%

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