Personality Traits And Academic Performance of Medical Students in Al-Ahsa, Saudi Arabia
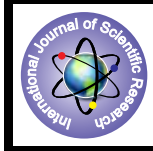
Medical Science

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ABSTRACT

Introduction: Students differ in their learning styles and generally do well in the environment that fit their personality types. Considerable research is being done to ascertain the personality types of students to create a rewarding environment that enhances their learning ability. Correlating personality with academic performance has come a long way since one of the earliest review articles in the field. The present study was conducted to determine various personality traits and its correlation with their academic performance so that the teaching and learning methods can be modified to produce excellent academic achievements by the students after awareness of their pattern of personality. Material and Methods: A Cross-sectional study was conducted among 416 medical students of College of Medicine, King Faisal University, Saudi Arabia. A self-administered Big Five Inventory (BFI) questionnaire was distributed and responses were collected. Results: In the present study, 155 (37.1%) participants were Traditional Curriculum students while 263 (62.9%) were PBL curriculum students. The 'Conscientious Personality' trait showed highly significant (p=0.0001) association with high GPA (4.5-5). However, no significant association was observed between other personality types (Openness, Extraversion, Agreeable, and Neuroticism) and GPA. Statistically no significant association was observed between personality traits and other characteristics of participants i.e. Gender, Marital status and teaching methods. Conclusions: Present study showed mixed pattern of personality traits of medical students. Few personality traits like Conscientiousness' has significant influence with academic performance of students. They showed favorable attitude towards 'Problem Based Learning' curriculum as compared to 'Traditional Curriculum'.

Introduction

Students differ in their learning styles and generally do well in the environment that fit their personality types. The learning style means the way in which individuals characteristically approach different learning tasks. [1] It can also be described as "A particular set of behaviors and attitudes related to learning context."[2]

Considerable research is being done to ascertain personality types of the students to create a rewarding environment that enhances their learning ability. Correlating personality with academic performance has come a long way since one of the earliest review articles in the field. [3] Many personality assessment instruments such as NEO Personality Inventory, [4] the California Psychological Inventory, [5-7] the Eysenck Personality Inventory, [8,9] the 16 personality factor (16PF) Questionnaire, [9-11] the Myers-Briggs Type Indicator [12] and the Jefferson Scale of Empathy [13] have been used but Big–Five, or equivalently the Five–Factor Model (FFM) has emerged as robust, replicable and scientifically reliable structure in explaining the relationship between personality traits and various academic behavior. [14-16]

There are many studies that attempted to develop personality profiles of medical students either at the beginning or during the course. They are being done primarily to predict the level of academic performance, and the career interests [18-25] and it is found that personality traits are remarkably related to high performance in job and school, both logically and statistically. [26]

The present study was conducted to determine various personality traits and its correlation with their academic performance so that the teaching and learning methods can be modified to produce excellent academic achievements by the students after awareness of their pattern of personality.

Material and Methods
Participants

A Cross-sectional study was conducted at College of Medicine, King Faisal University, Kingdom of Saudi Arabia. Ethical Committee approval was taken from respective Institutional Research Committee. The convenience sampling technique was adopted and 600 medical students from Second year to Sixth year at same institute were selected as study participants. Informed Consent was obtained from participants.

Study Instrument

A Big–Five Inventory (BFI) questionnaire was used to assess personality type of participants. Present questionnaire was translated and validated by bilingual experts. It consists of 44 items that measures an individual on the Big Five Personality Domains like Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness. (27-29) Each item consists of a short phrase and the participants indicate the degree to which they agree to each phrase using a 5-point Likert scale.

Procedure and Statistical Analysis

A self-administered BFI questionnaire was distributed to study participants. They were allowed 15 minutes to complete the questionnaire under strict supervision. Entire data was entered and analyzed by using Statistical Package for Social Sciences (SPSS) software with version 21.

Results

Out of 600 participants, 418 (70%) responded to question-naire

Table 1: Demographic Profile of Study Participants (n – 418)

Variable	No.	(%)
Gender		
Male	197	(47.1%)
Female	221	(52.9%)
Marital Status		
Male Married	6	(1.4%)
Male Unmarried	191	(45.7%)
Female Married	40	(9.6%)
Female Unmarried	181	(43.3%)
Study Level		
Second Year	65	(15.6%)
Third Year	90	(21.5%)
Fourth Year	108	(25.8%)
Fifth Year	75	(17.9%)
Sixth Year	80	(19.1%)

with non-response rate of 30%. The mean age of the participants was 21.3 years. Table 1 shows various demographic characteristics of participants. In present study, 155 (37.1%) participants were Traditional Curriculum students while 263 (62.9%) favored PBL curriculum students.

The majority of the participants (51.7%) had GPA in the range of 4 - 4.74 whereas 9.8% had a high GPA of 4.75 to 5. Only 0.2% of participants had GPA 1- 1.99 and GPA 2-2.99 and 3-3.99 were shown by 3.3% and 29.7% of participants respectively.

Almost half (49.8%) of participants had 'Agreeable Personality' followed by 'Openness' (39%), 'Conscientiousness' (9.1%), 'Neuroticism' (1.4%). Only 3 (0.7%) participants have 'Extraversion Personality' trait.

The 'Conscientious Personality' trait showed highly significant (p=0.0001) association with high GPA (4.5-5). However, no significant association was observed between other personality types (Openness, Extraversion, Agreeable, and Neuroticism) and GPA. (Table 2). Statistically no significant association was observed between personality traits and other characteristics of participants i.e. Gender, Marital status and Teaching methods.

Table 2: Personality traits and Academic Performance of Participants (n – 418)

		E*	A*	C*	N*	O*
GPA	Pearson Correlation	0.067	0.043	.178**	.039	.088
	P-value	0.181	0.395	0.0001**	0.436	.084
	N	396	393	392	393	389

* E= Extraversion, A= Agreeableness, C= Conscientiousness, N= Neuroticism, O= Openness.
** Correlation is significant at 0.01 level (2 tailed).

Discussion

Medicine is a diverse field with distinctive specialties, and personality research can play a very important role in career counseling of medical students about the specialty that may be best suited to their personality. [30] Identification of personality trait is an important pedagogical tool that may help in modifying the curriculum according to the need. [32] Researches in this field can also help in creating a rewarding environment that enhances

their learning ability. Several scientific studies have attempted to develop personality profiles of medical students, both at the start and during education. [18-25, 31]

To the best of our knowledge, the present study is the first of its kind that attempted to assess the personality traits and correlate these traits with academic performance of medical students in the Eastern Province of Kingdom of Saudi Arabia.

In present study, both male and female participants scored higher in 'Conscientiousness trait'. Lydon S. et al. [33] reported contrast findings in their study in wherein females scored higher than males on 'Agreeableness and Conscientiousness trait'. This might be due to chance or improved learning behavior of medical students in Saudi Arabia. 'Conscientiousness trait' was found to be significant with academic performance of participants in present study and these findings are supported by other studies also [3,32,40]

Present study showed that 'Conscientiousness' was the most consistent personality trait with academic performance of participants. Similar findings were also reported by many scientific studies. [3, 32, 40]   Ibrahim Ns [41] also concluded that 'Conscientiousness' was the best dimension of the big five personalities that highly correlates to academic performance.

Even though most the studies agree that personality influences the way in which students learns and performs academically, there is a debate regarding specific personality dimensions affecting the academic performance. This study has its own limitation. It was conducted at one medical college and with small sample size. Hence its conclusions cannot be generalized. However, further multi-centric studies are needed to explore the correlation between personality traits of medical students in various areas of Saudi Arabia and their academic performance.

Conclusions and recommendations

Present study showed mixed pattern of personality traits of medical students. Few personality traits like Conscientiousness' has significant influence with academic performance of students. They showed favorable attitude towards 'Problem Based Learning' curriculum as compared to 'Traditional Curriculum'. Identification of personality traits is an essential pedagogical tool and should be considered in curriculum planning of medical schools. Multicentric studies are needed to explore personality characteristics of medical students in Saudi Arabia.

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