

Big-5 Personality Traits in Medical and Dental Students of Khyber Pakhtunkhwa, Pakistan

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ABSTRACT

The purpose of this study was to assess the personality traits of medical and dental students of Khyber Pakhtunkhwa (KP), Pakistan. It was a cross-sectional study conducted in all the medical and dental institutes of Khyber Pakhtunkhwa, Pakistan. 2000 students were selected through the random sampling technique. Both the genders and all professional years of MBBS and BDS students participated in the study. Inform consent was taken from the students. The data was recorded and analyzed by using SPSS version 26.0. The results showed that the score for the personality trait of agreeableness was statistically significantly higher for undergraduate dental students in comparison to medical students ($U=388001.000$, $p \leq 0.001$). The personality trait of Neuroticism, it was seen that the scores were statistically significantly higher in undergraduate medical students as compared to dental students ($U=348662.500$, $p \leq 0.001$). It was concluded that Neuroticism was more in the medical and dental students of Khyber Pakhtunkhwa. There should be some programs for the personality development of the students.

Keywords

Agreeableness, Neuroticism, Extraversion, Conscientiousness, Openness, Personality Traits

Introduction

Personality traits are significant predictors of academic success during the training years at medical school and influence doctors' collaboration and communication skills in future professional practice. Personality traits are the consistent patterns of thoughts, feelings, motives, and behaviors that a person exhibits across situations (Lievens et al., 2018). A mix of personality traits is essential for performance in medical education which is associated with preclinical performance in medical students (Al-Naim et al., 2016). The big five personality traits provide a comprehensive framework for describing personality in adolescences and adults with the following dimensions: Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness (Soto & Tackett, 2015). Conscientiousness includes characteristics such as self-discipline, persistence, and striving for achievement. Extraversion consists of attributes such as sociability, positive affect, and energetic behavior. Agreeableness refers to altruistic, affective, and collaborative behaviors. Neuroticism comprises characteristics such as anxiety, fearfulness, and insecurity in relationships. Openness to Experience blends

Openness – which includes traits such as active imagination and esthetic sensitivity – with Intellect – that involves intellectual curiosity and insightfulness (Ordun & Akun, 2016). The big five personality trait has been used in many cultures and applied extensively in research studies in higher education (Melchers et al., 2016). Medical school, despite its challenges, maybe a period of personal growth, fulfilment, and well-being based on these traits. It's also been argued that exhaustion has its roots in medical school (Shanafelt & Noseworthy, 2017). Students in higher education focus to identify those academic subjects that match their abilities, interests, and future career aspirations to increase their chances of earning a degree (Wang, Ye, & Degol, 2017). Personality traits have long been known to be powerful determinants of subjective happiness (Anusic & Schimmack, 2016). According to Mc Manus et al findings, personality traits, particularly high levels of neuroticism and low levels of conscientiousness can create stress (Menges, 2016). In recent years, researchers have worked on the Big Five personality qualities of neuroticism, extraversion, openness, agreeableness, and conscientiousness to figure out that whether different academic subjects attract different kinds (Vedel, 2016). It is demonstrated

that managers perceive cognitive ability and conscientiousness as the most important attributes related to applicants' viability (Hasanzadeh, Dao, Esmaeili, & Dodd, 2019). Strong relationships were found between the emotional intelligence dimensions and the Big-5, particularly with extraversion and emotional stability (Higgs & Dulewicz, 2014). Costa and McCrae draw attention to the fact that low agreeableness does not signify a societal or psychological disadvantage (Stead & Fekken, 2014). Two studies reported that there are links between personality and long-term performance in the personality domain focused on earnings and occupational status (Brown & Hirschi, 2013). These studies are incredibly important in illustrating the utility of personality in predicting long-term job success, but their relevance is limited by their design. In undergraduate medical students, severe depressive illnesses, as well as the personality trait of neuroticism were revealed to be risk factors for suicide planning (Huang, Kuang, Wang, Cao, & Xu, 2019) and is associated with the traits that makeup 'mental toughness' (Dyrbye & Shanafelt, 2016). The purpose of the study was to identify the renowned personality traits in the medical and dental students of KP. Therefore, the objective of our study was to identify the Big-5 personality traits among the medical and dental students of KP.

Methodology

It was a cross-sectional study conducted on medical and dental students of all professional years. This study was carried out in Khyber Pakhtunkhwa, Pakistan. The time duration was January-December 2019. The random sampling technique was used and a total of 2000 students was selected in the study. A Brief Version of the Big Five Personality Inventory "Big Five Inventory-10 (BFI-10)" (Rammstedt, Kemper, Klien, Beierlein, & Kovaleva, 2013) was used. This scale is based on the five-factor model. It comprises 10 items with a 5-point Likert scale i.e., Strongly disagree (1) to Strongly agree (5). This inventory measures the five personality traits of an individual as Extraversion, Agreeableness, Conscientiousness, Neuroticism and Openness to Experience. The ethical approval was taken from the ethical committee of Gandhara university. The

pilot study was conducted on 10% of the population. The data was recorded and analyzed by using SPSS version 26.0.

Results

In this study (1377)68.9% were medical students and (623)31.2% were dental students. The mean age of the participants was 20.45 ± 1.253 years with 54.3% male and 45.8% female students.

Personality trait	Student group	Mean Rank	Sum of Ranks	Man, Whitney U	P value
Agreeableness	Undergraduate medical	970.77	1336754.00	388001.000	≤ 0.001
	Undergraduate dental	1066.21	664246.00		
Conscientiousness	Undergraduate medical	987.84	1360250.50	411497.500	0.139
	Undergraduate dental	1028.49	640749.50		
Extraversion	Undergraduate medical	955.93	1316319.00	367566.000	≤ 0.001
	Undergraduate dental	1099.01	684681.00		
Neuroticism	Undergraduate medical	1058.80	1457961.50	348662.500	≤ 0.001
	Undergraduate dental	871.65	543038.50		
Openness	Undergraduate medical	1012.40	1394077.00	412547.000	0.164
	Undergraduate dental	974.19	606923.00		

TABLE 1: MANN WHITNEY U VALUES ON EACH OF THE BIG FIVE FACTORS OF PERSONALITY TRAITS

Discussion

A cross-sectional study was conducted on 2000 students out of which 68.9% were undergraduate medical students and 31.2% were undergraduate dental students. The mean age of the participants was 20.45 ± 1.253 years with 54.3% male and 45.8% female students. It was seen that the score for the personality trait of agreeableness was statistically significantly higher for undergraduate dental students in comparison to medical students ($U=388001.000$, $p \leq 0.001$). For the personality trait of Neuroticism, it was seen that the scores were statistically significantly higher in undergraduate medical students as compared to dental students ($U=348662.500$, $p \leq 0.001$) as shown in table 1. Medicine is an emotionally demanding field, and these traits might have repercussions on student's well-being (Schmidt & Hansson, 2018). Different studies reported some identifying associations between openness and wellbeing, others identifying associations between openness and psychological disorders and others no relationships at all (Milfont & Sibley, 2012).

In a recent study, these 3 personality traits in people especially with higher neuroticism have been shown to experience life events more negatively than other individuals (Pocnet et al., 2016) partly because they choose to place themselves in situations that foster negative effects (García-Torres & Castillo-Mayén, 2020). Agreeableness is predictive of clinical competence in medical students (Sobowale, Ham, Curlin, & Yoon, 2018). Higher extraversion, in turn, reflects approaching behaviour and general sociability with a cheerful disposition (Mullola et al., 2018). A study conducted in Iran indicated that there was a negative relationship between neuroticism and performance (Mirhaghi & Sarabian, 2016). Some researchers believe that this relationship can be related to anxiety features of neurotic personalities, and thus lower performance levels. Whereas as in the same study agreeableness had a positive correlation with students' performance. This result is in line with that of previous studies (De Feyter, Caers, Vigna, & Berings, 2012). These students with such characteristics trust others and have a great sense of cooperation.

Therefore, they emphasize communication and collaboration with other students, which makes them more cooperative and collaborative in schooling (Kwon, Liu, Johnson, 2014). In addition, agreeableness helps the students to establish and maintain a suitable and beneficial relationship with their classmates and agreement with teacher instructions (Sunita & Sadawarte, 2014). Also, some believe that these individuals are good rational thinkers and can focus on the task at hand, which leads to better academic performance. In line with some previous studies (Stajkovic, Bandura, Locke, Lee, & Sargent, 2018). A study by Mullola et al. people who score higher on openness (intellect/imagination) are more open-minded and people oriented (De Feyter, Caers, Vigna, & Berings, 2012). They might be more intellectually curious and experience fewer obstacles (Caprara, Vecchione, Alessandri, Gerbino, & Barbaranelli, 2011). According to this study, the five personality traits, openness (intellect/imagination) is the most consistent trait associated with a speciality preference. Frey and Determan believe that students with higher capability show higher achievement and obtain higher evaluations (Ngwira, Gu, Mapoma, & Kondowe, 2017). Researchers reported that high academic achievement could be linked with the enhancement of confidence in people's potency and higher responsibility for successful completion of projects along with Big Five personality traits (Malouff, Thorsteinsson, & Schutte, 2005). In the general population, though, there is a well-established link between personality traits and depression, as well as personality traits and anxiety disorders (Bluml et al., 2013). Furthermore, as compared to the general community and age-matched peers, a recent study found that depression and anxiety disorders are more common in the population of medical students (Wege, Muth, Li, & Angerer, 2016). In recognition of the significance of these challenges, the Ad Hoc Committee of Deans report from the Association of American Medical Colleges (AAMC) needs to call for the medical education system to consider "the learners' health and well-being" as part of its ambition for providing quality education (American Medical Colleges, 2004).

Conclusion

It was concluded that there was more sway of neuroticism, agreeableness and extraversion in these students and less openness and conscientiousness. There would be a need for psychological therapies regularly in all the medical and dental institutes of KP to monitor their behaviour and to check their stress level according to their personality traits.

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