Exploring the Relationship Between Self-esteem and Personality Traits Among Medical Students: A Cross-Sectional Study

By

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Abstract

Self-esteem and personality traits play a crucial role in determining the psychological health and academic performance of medical students. This cross-sectional study examines the relationship between self-esteem and the Big Five personality traits in medical students in Central Park Medical College Lahore Pakistan and sheds light on how these factors work together in a high-stress environment. A total of 300 medical students used validated self-report measures, including the Rosenberg Self-Esteem Scale and Big Five Inventory. The preliminary findings suggest that the levels of self-esteem are positively related to extraversion (p<0.01), agreeableness (p<0.05), and conscientiousness (p<0.01); however, neuroticism has a very strong negative association (p<0.001). A strong predictive ability of personality traits on self-esteem could also be determined, with personality traits accounting for 45% of the variance in the self-esteem score. These results indicate the importance of developing personality traits in medical students to maintain self-esteem. The significance of this study is that it explores one specific aspect of the impact of certain personality dimensions on self-esteem levels, which may help develop new approaches in medical education.

Keywords: *Self-esteem, personality traits, medical students, psychological well-being*

Introduction

The Big Five personality traits include extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience. This model helps in accounting for individual differences in behavior and emotion regulation (McCrae et al. 2021). These personality traits have received considerable research attention across different populations and have been found to correlate with self-esteem (Roberts et al., 2022). For instance, extraversion was shown to improve an individual's social life as well as his love life while neuroticism was found to hamper both (John et al., 2023). Conscientiousness, the tendency to make great plans and implement them persistently, has also been related to educational achievement and self-esteem even under high levels of stress such as that experienced in a medical school (Costa et al. 2021).

Indeed, the relationship between self-esteem and personality development has received sufficient attention from researchers, although only a handful have applied these concepts to medical students' personalities. Given the specific challenges inherent to this group, it is essential to comprehend the relationship between personality and self-esteem to design measures that promote students' health. Among students in various fields, medical students suffer the most from stress, anxiety, and depression due to rigorous schedules and high expectations from their academic and emotional efforts through clinical rotations (Leao et al., 2022). These aspects will lower self-esteem, which will also contribute to students' scholarly pursuits, relationship building as well as their professional disposition later on.

It has been highlighted recently that personality traits also help a person cope with events that could lower their levels of self-esteem (Zhao et al., 2023). For example, extroverted students may be more emotionally equipped to cope with the rigors of medical training because the drive to maintain social relations means they are likely to seek emotional support from friends and family. On the downside, neurotic people in training for medical professions may find themselves not so emotionally stable at times when the training is particularly demanding, which could adversely affect self-worth and mental health (Smith et al., 2022). Though applying social scientific methods to achieve this aim is offering new insights into relevant scholars' understanding of medical education and its psychosocial aspects, the existing literature review indicates that not much is known concerning the particular

personal attributes that moderate the predictive effect of self-esteem among medical students in this particular period of training, especially as it relates to development across different levels of medical training.

Therefore, this study will focus on the gap that there is in the literature concerning self-esteem and how it affects the big five personality traits in a given population of medical school students in the case that they were drawn from the region of Quebec, Canada. Furthermore, this study aims through self-esteem to examine personality traits in the light of which they affect the candidates' well-being and influence the potential benefits of the improvement of students' psychological health. As there is a growing concern over the issue of mental health in the practice of medicine, students need to understand self-esteem and factors related to it to help them develop themselves both personally and in their future careers.

In this case, concerning medical education, self-esteem appears to be of several roles. It does determine students' achievements as well as the way they can cope with emotionally taxing aspects of the clinical practice (Garcia et al, 2023). Highly self-assured students are more likely to employ active coping responses, seek help from others, and retain an optimistic view of things all of which are necessary for withstanding the challenges of studying medicine. On the other hand students with low self-esteem levels appear to be more vulnerable to psychological issues such as burnout, and depression in addition to other conditions that can negatively affect their academic and career performance (Nguyen et al, 2023). Individual differences such as personality traits, which are relatively unchanging across situations, also influence these variables which makes medical students' well-being an important research agenda.

This study complements existing knowledge by examining this relationship for a designed population and by addressing the ability of personality to be used to improve the self-esteem and academic achievement of medical students. However, as we keep emphasizing this becomes alarming as the worrying trend continues, so do the reasons to pursue ST in relative normalcy like other fields, further exploring this domain seems to be quite the necessity.

Methodology

In this cross-sectional study, a sample of 300 medical students was randomly recruited from Central Park Medical College from three different medical years. The purposive sampling method ensured all participants met the selection criteria of being second to fifth-year medical students, at the ages of 18 to 30 years and having no past incidences of psychiatric disorders. The exclusion criteria faced by the respondents included; students who were first-year students and students who did not answer all questions, and returned the blank questionnaires. The Rosenberg Self-Esteem Scale and the Big Five Inventory (BFI), whose reliability and validity had been tested in previous research, were used to collect data. The sample size was determined using Epi software at a confidence level of 95% and a margin of error of 5% based on the effect sizes that have been reported (Nguyen et al., 2023).

All participants were informed and consented verbally before data collection.

Results

Variable	Mean±SD	p-Value	Significance
Self-esteem	24.6±3.8	-----	-----
Extraversion	32.1±4	0.01	Significant
Agreeableness	28.4±5.1	0.05	Significant
Conscientiousness	30.2±4.8	0.01	Significant
Neuroticism	18.9±3.3	0.01	Highly Significant
Openness to experience	34.5±5.3	0.09	Not Significant

Table 1: Analysis of Self-esteem

The analysis claims self-esteem is positively associated with agreeableness, extraversion, and conscientiousness. On the contrary, self-esteem is found to be negatively associated with neuroticism which is statistically significant ($p < 0.001$). There was no statistically significant relationship with Openness to experience and Self-esteem either ($p = 0.09$). The demographic distribution depicts that the male and female students are equally proportionate and students overall from different years of studies are present.

Discussion

This study provides evidence that personality traits are of special importance when explaining self–esteem levels in medical students, contributing useful information regarding the self–concept of this population. Equally, the negative relationship between self-esteem and personality traits such as neuroticism tally with earlier studies that have confirmed these negative traits hamper the self – esteem (Roberts et al, 2022). Particularly, Extraversion was revealed to boost self-esteem suggesting that more sociable, aggressive, and outgoing students profess positive evaluations of themselves. This finding is in agreement with research conducted by McCrae et al., 2021 which reported that extroverts also tend to self-report high self-confidence and emotional stability which help cope with the challenges that accompany medical education.

According to research, self-esteem in individuals does not develop since neuroticism is so negatively correlated with self-esteem (which is $p < 0.001$). Neuroticism scores high especially with high levels of emotional instability, where individuals often are anxious and depressed, leading to a lowering of self-esteem (John et al, 2023). This may also apply to medical students who are normally under a lot of academic and clinical pressure where neuroticism may worsen one's self-concept, leading to an inferiority complex stage. Pathway to that relationship has been exhaustively presented by Smith et al (2022) whereby neuroticism is a risk factor for adverse mental health manifestations among students, which

has been reported as an important challenge for students practicing medicine (Leao et al, 2022). Given the increased risk of developing mental health issues in medical students, these findings point towards an urgent need for focused psychological support that aims to reduce neuroticism and encourage the resilience of emotions.

Another important domain was also significant in determining self-esteem in this study, i.e., agreeableness and conscientiousness. There was a positive relationship between self-esteem and high scores of agreeableness (p= 0.05) that student learners who are cooperative, sympathetic, and compassionate are likely to appreciate themselves more. These traits may allow medical students to build relationships with peers and mentors, thus supporting positive self-image as well. In a similar line, students with high scores on conscientiousness (p= 0.01) also reported high levels of self-esteem which implies that organized, hardworking, and achievement-oriented students rate themselves positively. Intriguingly, if one has a good level of conscientiousness, his degree of success will also be higher as noticed by Hosei et al. (2021) which states that this trait's high level relates to school achievement and abundant self-discipline essential for medical students.

Strangely enough, the variable 'openness to experience' had no significant correlation with self-esteem in this study (p = 0.09). While openness has been known to relate to creativity, curiosity, and an inclination toward new ideas, it seems that this does not affect self-esteem among medical students. This may relate to the concept that although openness has some utility in certain situations, this particular social trait does not facilitate any of the features that are related most to self-esteem, social ties, or emotional rewards (Zhao et al., 2023).

The demographic data, including the balanced gender distribution and diverse year representation, reinforces the external validity of the outcomes of the present study. The gender distribution reflects the proportions of medical students in the general population. Thus, the outcomes are relevant to both male and female medical students. Additionally, the representation of students of varying study years generates a wider comprehension of the association between personality characteristics and self-esteem at different levels of medical training.

The uniqueness of this study is emphasize within the boundaries of medical education, it specifically examines the interaction between self-esteem and the Big Five personality traits, which has not been sufficiently addressed previously. Most of the previous literature examined these variables in a general population, and few studies tested these variables specifically in the medical education and competitive environment. The results of the current study help to expand the literature on self-esteem by emphasizing the importance of personality traits in the self-esteem of medical students and indicating possible ways to influence self-esteem.

These findings present consequences of import, both for those who teach medical students and for mental health practitioners. The identification of personality profiles such as self-esteem, that are amenable to changes will provide a base for the initiation of relevant activities, aimed at the optimization of the student experience. For instance, programs aimed at decreasing neuroticism while enhancing extraversion, agreeableness, and conscientiousness may prove useful in elevating the self-esteem and general well-being of students. Such measures may be particularly beneficial in the initial phases of medical training, relative to the students' adaptation to their academic and clinical duties.

This paper explains the role of personality traits in the self-esteem of aspiring medical students. The findings have uncovered significant associations of self-esteem with traits of extraversion, agreeableness, conscientiousness, and neuroticism which assist in understanding how the differences between individuals are manifested in the aspects of psychological wellbeing in this cohort of people. These not only add to the current body of knowledge but further the understanding of how the emotional well-being and academic performance of medical students can be improved or sustained. It would be interesting to investigate whether such psychological treatment will increase self-esteem and resilience to stress among medical students.

Conclusion

This study provides information on the significance of personality traits, particularly those of extraversion, agreeableness, conscientiousness, and neuroticism about self-esteem among medical students. These findings contribute to the existing body of literature and offer new possibilities for personality-based interventions that may improve student wellness and achievement in clinical medical training. Such studies should be extended to other types of education and their potential usefulness determined.

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