

Assessing the dimensions of narcissism and its prevalence among medical students

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ABSTRACT

Background: Narcissism is a personality disorder where a person feels more shy, arrogant, and sometimes hyperactive. That has a strong impact on relationships with friends, family, and colleagues. This trait is also present in normal people and a lot of features are still not known.

Objective: To determine the dimensions of narcissism and its prevalence among medical students of Central Park Medical College, Lahore.

Materials & Methods: This cross-sectional study was conducted on medical students at Central Park Medical College, Lahore, from November 2023 to March 2024. Through this study, the prevalence of two dimensions of narcissism among them was assessed. A total of 150 students from all five MBBS years participated in this study. A questionnaire based on the 40-item Narcissistic Personality Inventory (NPI-40) was created and the responses of students were analyzed. Data were collected through Google Forms and analyzed by SPSS version 22 for descriptive and comparative statistics, with $p \leq 0.05$ indicating significance.

Results: No case of overt narcissism was found; however, 44(29.33%) students had borderline narcissism (NPI scores between 15-20, mean score 15.96 ± 3.46) which was entirely in junior MBBS years, was not significant across genders, and declined with senior MBBS years. A positive association was found between the GPA scores and NPI scores ($r=0.597$, $p<0.001$), as well as with Stress scores ($r=0.763$, $p<0.001$) implicating them as possibly helpful in academic achievements. Stress scores and NPI scores were also positively associated ($r=0.676$, $p<0.001$).

Conclusion: Narcissistic traits, though not common among medical students, may also promote the role of stress, and help them in their academic performance particularly in the early medical years when the challenges of medical education are higher.

Keywords: Narcissism; Psychoanalytic Theory; Stress; Students, Medical; Self Esteem.

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INTRODUCTION

Aspiration, relentless effort, and a commitment to greatness define the journey of a medical student. Although these natural qualities are necessary for academic success, they can also become entangled with the demanding environment and encourage the development of less desirable personality traits. Among the several concerns, narcissism emerges as a noteworthy issue due to its intricate interplay of grandiosity, entitlement, and an unquenchable desire for adoration. A comprehensive comprehension of the prevalence and multidimensional nature of this phenomenon within the medical student community is crucial because of its potential influence on interpersonal interactions, patient care, and professional conduct.

Narcissism, as conceptualized within the current psychological framework, surpasses a solitary, homogeneous definition. The construct in question is characterized by multiple dimensions and is commonly evaluated through the utilization of tools such as the Narcissistic Personality Inventory.¹ These two characteristics, grandiose and vulnerable narcissism, are explored in this inventory. Grandiose narcissism is characterized by an exaggerated perception of one's significance, an unwavering quest for adulation, and a proclivity to take advantage of others for personal benefit.² Conversely, vulnerable narcissism conceals a delicate sense of self-worth behind a facade of arrogance, marked by an excessive sensitivity to criticism and a persistent worry about insufficiency.³ Excessive expression of both dimensions can have harmful effects in professional environments, especially in delicate fields like healthcare.

The possible consequences of narcissism within the medical profession are extensive and have wide-ranging implications. Babiarz et al⁴ have conducted research that has demonstrated a correlation between grandiose narcissism and diminished empathy, resulting in interactions with patients characterized by a lack of compassion and understanding. Moreover, studies indicate that narcissistic inclinations might harm cooperation and collaboration, which are vital components of

effective healthcare provision.⁵ Moreover, there exists a correlation between ethical violations unprofessional behavior, and heightened levels of narcissism, which gives rise to apprehensions over the safety of patients and the level of trust in the healthcare system.⁶

Hence, comprehending the frequency of narcissism among medical students is not solely a scholarly endeavor. Importantly, it helps shape educational environments that foster the development of healthcare workers who are compassionate, ethical, and patient-centered. Nevertheless, estimates of the prevalence of narcissism in this population vary significantly, depending on the testing technique and demographic characteristics. The range is from 4% to 23%.⁷ These discrepancies highlight the need for additional research with thorough evaluation tools and rigorous methods.

Furthermore, existing research indicates possible associations between particular medical specialties and heightened levels of narcissism. Research has indicated that individuals with a keen interest in competitive fields such as surgery and emergency medicine exhibit elevated levels of narcissism, specifically about grandiosity.⁸ Gaining insight into these patterns could provide valuable information for implementing focused interventions and selection procedures to guarantee patient safety and uphold ethical standards in particular domains.

Given the intricate nature and potential ramifications associated with this phenomenon, the primary objective of this research is to further investigate the multidimensional aspects of narcissism within the population of medical students. We will analyze the frequency of both grandiose and vulnerable narcissism, explore possible demographic factors, and analyze the connections with academic achievement, career goals, and empathy ratings. Through illuminating these complex interconnections, we aim to make a valuable contribution to the advancement of well-informed therapies and educational approaches that cultivate the principles of empathy, cooperation, and moral conduct within the medical field.

MATERIALS & METHODS

This cross-sectional study was conducted on medical students at Central Park Medical College, Lahore from November 2023 to March 2024. The study population was 150 undergraduate medical students from first-year MBBS to final-year MBBS, so we identified five strata depending on the year of study. The students were selected through random sampling, approached during college time and enrolled after obtaining informed consent. Through this study, the prevalence of two dimensions of

narcissism among them was assessed using a questionnaire based on the 40-item Narcissistic Personality Inventory (NPI-40)⁹. The students who scored above 20 points from the available 40 points on the NPI-40 were considered to have narcissism, those with scores of 15-20 were considered as borderline narcissistic, and those below scores of 15 were considered normal.⁹ In addition, students were asked to rate their stress level (Self-Reported Stress, SRS) based on a VAS like scale with ratings of 1-10, where higher numbers indicated greater stress. The data were collected on Google Forms and analyzed by SPSS version 22 for descriptive and comparative statistics, with $p \leq 0.05$ denoting significance. Ethical approval for conducting the study was obtained from the Institutional Review Board of Central Park Medical College Lahore.

RESULTS

The mean age for all students was 21.1 ± 1.0 years. There were 20% MBBS students from every year represented by nearly equal number of males per class (total of 70, 46.7% males and 80, 53.3% females). Based on the NPI scores, 44(29.33%) students had borderline narcissism, of which there were equal numbers of males and females; 17(38.64%) were from First year, 14(31.82%) were from Second year, and the remaining 13(29.54%) were from Third year MBBS.

Table 1 provides the different scores obtained. The NPI scores ranged from 10.1 to 17.8; the overall mean NPI score was 14.06 ± 3.27 (males 14.06 ± 1.72 , females 14.06 ± 1.53 , $p=0.989$). When divided into the categories of ≤ 15 and >15 , the mean score of the former 106(70.67%) students was 13.27 ± 3.20 , and of the latter 44(29.33%) students was 15.96 ± 3.46 ($p<0.001$). None of the scores showed significant differences among genders.

Table 1: Mean scores obtained by students in different categories (n=150).

#	Scores	Males	Females	Overall
1.	NPI	14.06 ± 1.72	14.06 ± 1.53	14.06 ± 3.27
2.	NPI Groups			
	≤ 15 (n=106)	13.15 ± 1.20	13.36 ± 1.17	13.27 ± 3.20
	>15 (n=44)	16.05 ± 0.72	15.88 ± 0.57	15.96 ± 3.46
3.	GPA	3.28 ± 0.29	3.26 ± 0.25	3.27 ± 0.26
4.	SRS	3.41 ± 1.57	3.33 ± 1.48	3.37 ± 1.50

Comparison of the scores were also done by MBBS years, using one-way ANOVA, as shown in Table 2. The NPI scores are seen to gradually decrease from First Year MBBS onwards, and the same trend is seen when the two NPI groups are analyzed. Similarly, the Stress scores decrease with increasing MBBS years, and both these scores show significant differences over the MBBS years ($p<0.001$).

Table 2: Comparison of students' mean scores by MBBS years by one-way ANOVA (n=150).

#	Scores	MBBS Years					p value
		Year 1	Year 2	Year 3	Year 4	Year 5	
1.	NPI	15.52 ± 1.02	14.87 ± 1.28	14.43 ± 1.24	13.33 ± 0.88	12.12 ± 0.99	<0.001
2.	NPI Groups						
	≤ 15 (n=106)	14.68 ± 0.37	13.82 ± 0.64	13.56 ± 0.98	13.33 ± 0.88	12.12 ± 0.99	<0.001
	>15 (n=44)	16.17 ± 0.86	16.08 ± 0.49	15.57 ± 0.05	-	-	
3.	GPA	3.72 ± 0.19	3.31 ± 0.09	3.21 ± 0.07	3.08 ± 0.07	3.05 ± 0.05	<0.001
4.	SRS	5.07 ± 0.78	4.63 ± 0.49	3.53 ± 0.63	2.27 ± 0.45	1.33 ± 0.48	<0.001

Correlations were also done between the different scores, as shown in Table 3. Significant correlations were obtained between the three score categories, with the highest correlation seen between GPA and Self-Reported Stress (SRS) scores ($r=0.763$, $p<0.001$). This was followed by the NPI and SRS scores ($r=0.676$, $p<0.001$), and the correlation between the NPI and GPA scores ($r=0.597$, $p<0.001$).

Table 3: Correlations between the different scores of MBBS students (n=150).

#	Variable 1	Variable 2	r value	p value
1.	GPA score	SRS score	0.763	<0.001
2.	NPI score	SRS score	0.676	<0.001
3.	NPI score	GPA score	0.597	<0.001

DISCUSSION

Because of its complexity, the topic of narcissism has captivated researchers and clinicians for decades, leading to ongoing discussion and investigation. However, specific investigation is required because this occurrence among medical students brings up valid concerns. In the present study, the mean NPI score of first-year MBBS is higher as compared to other years, and it gradually declines with the higher MBBS years; moreover, there is no gender predominance in the presence of narcissism. This difference may be explained by sudden changes in the environment for First year students compared to other years and the reason for less NPI in other years may be because of more competent and less stressful fields as compared to the first year and adaptation of the environment. Grandiose vs. Vulnerable Narcissism, one of the most popular ways to identify narcissism and its two main symptoms, is possible with the NPI. Displays of grandiosity, exhibitionism, and an overwhelming need for praise are hallmarks of grandiose narcissism.¹⁰ In contrast, fragile narcissism has been studied.¹¹ This type of narcissism is marked by an extreme vulnerability to criticism, an overwhelming feeling of inadequate self-worth, and an insatiable need for validation. A comprehensive comprehension of these separate yet interconnected manifestations is needed to effectively evaluate narcissism within the population of medical students. Assessing the frequency of narcissism among medical students poses a multifaceted difficulty. Research findings indicate that there are diverse rates, spanning from 4% to 23%, which can be attributable to variations in factors such as sample size, measurement instruments, and cultural environments. The research conducted in China revealed a notable disparity in the prevalence of narcissism between medical students and a control group.¹² This finding suggests that cultural factors may play a role in shaping the manifestation of personality traits. Moreover, the selection of an evaluation technique has a significant influence on the documented prevalence. Studies that employ self-reported instruments like the NPI tend to exhibit greater rates in comparison to those that utilize clinician-rated measures. This underscores the necessity for additional research utilizing uniform methodology and inclusive samples, taking into consideration cultural and methodological factors. Several researches have indicated the existence of potential gender disparities in narcissism ratings among physicians. A study observed elevated levels of grandiose narcissism among male students in comparison to their female counterparts.¹³ However,

other research conducted by Rakofsky et al¹⁴ did not identify any statistically significant gender disparities. The presence of these inconsistencies highlights the necessity for additional investigation, considering variables such as the size of the sample and the precise features of narcissism that were examined.

Moreover, existing research indicates a potential association between a particular medical specialty and heightened levels of narcissism. According to Ritter et al¹⁵ students who have a strong interest in competitive fields such as surgery and emergency medicine tend to exhibit higher levels of narcissism, specifically grandiosity. The observed occurrence could perhaps be elucidated to some extent by the intrinsic characteristics linked to these particular areas of expertise, such as the qualities of decisiveness and leadership, which may exhibit similarities with grandiose narcissism. Nevertheless, it is imperative to underscore that not all persons who are attracted to these particular fields demonstrate narcissistic inclinations. Consequently, additional investigation is required to unravel causal connections and account for individual differences.

Strong and significant associations were found between the NPI, GPA, and SRS scores of students (Table 3). Based on academic performance and professional aspirations the intricate and equivocal nature of the association between narcissism and academic achievement in medical students persists. Several researches have indicated a favorable association between grandiose narcissism and academic accomplishment. These findings suggest that the ambitious and competitive disposition exhibited by persons with narcissistic traits may potentially result in improved academic performance. Contrarily, alternative research has yielded no substantial connections or even adverse correlations.¹⁴ Further inquiry is necessary to address these inconsistencies, considering potential confounding variables such as the design of the study, the specific measures of academic achievement, and the impact of various dimensions of narcissism. Regarding professional goals, the existing body of research indicates that individuals with greater levels of grandiose narcissism may have a propensity for pursuing high-paying occupations. This inclination may be influenced by the pursuit of social status and acknowledgment.¹⁵ Further investigation is required to delve into the underlying reasons for selecting specific areas of expertise and to separate the impact of narcissism from other variables such as individual interests and abilities. Empathy and emotional intelligence the ability to understand and share another person's feelings is known as empathy, and it is a crucial quality for healthcare providers to have.

Studies have shown that medical students' assessments of empathy are inversely related to their levels of grandiose narcissism,⁴ which makes one worry that they may have trouble understanding and empathizing with patients. On the other hand, vulnerable narcissism hinders the development of positive therapeutic relationships since it shows up as emotional manipulation and a heightened sensitivity to what the therapist perceives as criticism from the patient.¹¹ Further investigation is necessary to examine the intricate relationship between characteristics of narcissism and emotional intelligence in the medical field. This research has the potential to impact several

aspects such as selection procedures, educational interventions, and the advancement of patient-centered care. The results presented in these tables provide critical insights into the performance and psychological well-being of MBBS students. The data in Table 1 show consistent NPI scores, indicating that gender does not significantly influence the psychological traits measured by this scale, suggesting a uniform distribution of these traits among male and female students. However, when analyzed by NPI groups, a clear distinction emerges between students scoring ≤ 15 and those scoring > 15 , with the latter showing higher mean scores. This could suggest that higher psychological well-being or resilience may be linked to better academic or personal outcomes, warranting further investigation into potential influencing factors.¹⁶

Further examination of NPI scores across different MBBS years (Table 2) reveals a noticeable decrease as students progress through their studies, which could be attributed to increased academic pressure and stress. This trend aligns with existing literature suggesting that medical students often experience a decline in mental health as their education advances, potentially affecting their overall performance and well-being.¹⁶ Additionally, the correlation analysis shown in Table 3, which demonstrates positive associations between NPI scores and both GPA and SRS scores, highlights the importance of psychological well-being in academic success. These findings imply that strategies aimed at enhancing psychological health may contribute to better academic performance and adaptive stress responses, ultimately supporting students' success throughout their medical education.¹⁷

Research indicates that these divergent dimensions may have distinct functions within the realm of medicine. As demonstrated by the study conducted by Babiarz et al,⁴ there exists a negative correlation between grandiose narcissism and empathy, which may result in compromised patient relationships. On the other hand, individuals with susceptible narcissism, which is motivated by the desire for external validation, may exhibit an inclination towards excessive self-promotion and manipulation of their colleagues, thus impeding the effectiveness of cooperation and collaboration.⁵ It is crucial to acknowledge, although, that these relationships are simply suggested, and additional investigation is required to delve into the causative mechanisms and precise

behavioral expressions of each dimension within the medical domain.

Long-Term Implications and Ethical Concerns

Narcissism in healthcare can have far-reaching effects that go beyond the interactions between specific patients. Campbell and Twenge¹⁰ state that there is evidence linking narcissism to unethical behavior, such as breaches of patient confidentiality, financial exploitation, and general unprofessionalism. These infractions pose serious risks to patients' safety and well-being and erode their faith in the healthcare system. The possible link between narcissism and unethical behavior requires an all-encompassing approach to be investigated. Healthcare organizations should foster a culture of responsibility and adhere to strict screening protocols as part of this strategy. Continuing professional development programs should emphasize ethical principles and patient-centered care.

Interventions and Future Directions

The potential negative effects of narcissism on medical professionals' well-being, patient care, and professional behavior make the investigation of effective treatments of paramount relevance. Research suggests that individuals with narcissistic tendencies may benefit from psychotherapy and self-awareness training to build empathy and emotional management skills.¹⁰ Furthermore, the integration of educational initiatives within medical institutions that specifically tackle the ethical ramifications of narcissism and foster introspection, emotional acumen, and patient-centric communication has the potential to furnish aspiring healthcare practitioners with indispensable competencies for effectively managing intricate interpersonal dynamics. Additional investigation is required to assess the effectiveness of these interventions and establish evidence-based strategies to alleviate the adverse consequences of narcissism in the medical domain.

CONCLUSION

Overt narcissism was not a feature of medical students, and even the borderline levels in junior years declined with senior MBBS years; however, borderline narcissism and self-reported stress were found to have positive effects on academic performance of students.

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