

Association of Self-Esteem with Academic Performance of Physiotherapy Students in Rawalpindi/Islamabad

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Self-esteem, academic performance, physiotherapy students, academic motivation, psychological factors, educational outcomes, healthcare education.

Disclaimers

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ABSTRACT

Background: Self-esteem is a critical psychological factor influencing academic performance, especially in demanding educational programs like physiotherapy. Understanding this relationship is essential for enhancing student outcomes.

Objective: To examine the correlation between self-esteem levels and academic performance of physiotherapy students in Rawalpindi/Islamabad and to investigate whether the relationship varies based on gender.

Methods: A descriptive correlational study was conducted on 313 physiotherapy students selected through non-probability convenience sampling. Data were collected using a self-structured demographic questionnaire, the Rosenberg Self-Esteem Scale (RSES), and the Academic Life Assessment Scale (ALAS). The study adhered to the Declaration of Helsinki, and analysis was performed using SPSS version 25. Pearson's correlation, independent t-tests, and one-way ANOVA were used to evaluate relationships.

Results: A weak but significant positive correlation was found between self-esteem and academic performance ($r = 0.249$, $p < 0.01$). Female students performed better academically (Mean = 72.46 ± 7.77) compared to males (Mean = 72.53 ± 7.52), but gender differences were not statistically significant ($p > 0.05$).

Conclusion: The study concluded that higher self-esteem is associated with better academic performance, with no significant gender differences.

INTRODUCTION

Self-esteem is a psychological construct that plays a pivotal role in shaping an individual's academic, social, and personal life. It refers to a person's overall sense of self-worth and confidence in their abilities, which in turn affects their approach towards various life challenges, including academic pursuits (1). The importance of self-esteem in academic settings is particularly relevant in professional programs such as physiotherapy, where students often face high demands for both intellectual and practical skills. The complex interplay between self-esteem and academic performance has been studied extensively, with findings suggesting that high self-esteem enhances motivation, resilience, and the capacity to deal with stress, all of which contribute to better academic outcomes (2). Conversely, students with low self-esteem may experience self-doubt, anxiety, and a lack of motivation, which can adversely impact their academic achievements (3). Furthermore, self-esteem is not static and can be influenced by various factors, including family background, social support, and personal experiences, making it a crucial element to consider in educational research (4). In the context of physiotherapy education, where students are expected to master both theoretical knowledge and practical competencies, understanding the role of self-esteem is essential for promoting effective learning environments and supporting student success (5).

Academic performance, on the other hand, is a key indicator of educational achievement and is influenced by a myriad of

factors, including psychological, social, and environmental aspects (5). In the field of physiotherapy, academic performance is not solely dependent on cognitive skills but also on the development of practical abilities, critical thinking, and problem-solving skills that are essential for clinical practice (6, 7). This multidimensional nature of physiotherapy education requires a comprehensive approach to assessing student outcomes, where self-esteem becomes a significant variable. Research has demonstrated that students with high self-esteem are more likely to engage in effective study strategies, exhibit a positive attitude towards learning, and possess a greater ability to overcome academic challenges (7). The reciprocal relationship between self-esteem and academic performance suggests that improving one's self-esteem can lead to better academic results, while academic success can, in turn, enhance self-esteem, creating a positive feedback loop that fosters overall academic growth (8). However, the specific dynamics of this relationship can vary based on individual characteristics such as gender, age, and educational background, highlighting the need for further research to explore these nuances (9).

Previous studies on the relationship between self-esteem and academic performance have primarily focused on general student populations, with limited attention given to professional programs like physiotherapy (10). Given the rigorous nature of physiotherapy education, where students must navigate through complex coursework, clinical placements, and skill development, the impact of self-esteem on academic performance may differ significantly

compared to other disciplines. Additionally, there is evidence to suggest that gender may moderate the relationship between self-esteem and academic performance, with some studies reporting that female students tend to perform better academically despite having lower levels of self-esteem compared to their male counterparts (11). This gender disparity in self-esteem and its potential impact on academic outcomes is of particular interest in the context of physiotherapy, where female students often represent a substantial proportion of the student body (12). Understanding these dynamics can provide valuable insights into developing targeted interventions to support students' self-esteem and academic performance (13).

In Pakistan, where the study was conducted, the educational landscape presents unique challenges that may influence the self-esteem and academic success of students. Physiotherapy is a relatively emerging profession, and students often face societal and familial pressures to excel academically, which can impact their self-esteem (13). The competitive nature of medical and health-related programs further complicates this relationship, as students may struggle to balance academic demands with personal well-being. Exploring the association between self-esteem and academic performance in this specific context is crucial for identifying strategies that can enhance student outcomes and promote a positive learning environment (14).

Therefore, the present study aims to examine the correlation between self-esteem and academic performance among physiotherapy students in Rawalpindi and Islamabad, investigate the influence of self-esteem on academic motivation, and explore whether this relationship varies by gender. By understanding these factors, the study seeks to contribute to the broader literature on self-esteem and academic performance in professional education, with implications for both educational policy and practice (15).

MATERIAL AND METHODS

The study employed a descriptive correlational research design to investigate the association between self-esteem and academic performance among physiotherapy students in Rawalpindi and Islamabad. The target population included undergraduate students enrolled in various medical colleges offering physiotherapy programs within the twin cities. A sample size of 313 participants was determined using Slovin's formula, with a non-probability convenience sampling technique applied to recruit participants who met the inclusion criteria. The inclusion criteria required students to be enrolled in a physiotherapy program, aged 18-25 years, residing in Rawalpindi or Islamabad, and willing to provide informed consent. Exclusion criteria included students with a history of psychological disorders, medication-induced conditions, or post-traumatic stress disorder (PTSD) to ensure that the findings were not confounded by unrelated psychological variables. Data collection was conducted over six months following ethical approval from the Margalla Institute of Health Sciences, Rawalpindi, in accordance with the

Declaration of Helsinki guidelines (16). The study instruments included a self-structured demographic questionnaire, the Rosenberg Self-Esteem Scale (RSES), and the Academic Life Assessment Scale (ALAS) to measure self-esteem and academic performance, respectively. Participants were provided with a detailed explanation of the study's purpose, procedures, and confidentiality measures prior to data collection, and written informed consent was obtained from each participant. The Rosenberg Self-Esteem Scale is a widely used tool that consists of ten items rated on a four-point Likert scale, ranging from "strongly agree" to "strongly disagree," and yields a total score indicating the overall level of self-esteem. The Academic Life Assessment Scale measures academic performance, encompassing various domains such as study habits, time management, and test-taking skills, and provides a comprehensive assessment of students' academic capabilities.

Data were collected through face-to-face administration of the questionnaires in a classroom setting to minimize bias and ensure high response rates. Each participant completed the survey anonymously to maintain confidentiality and reduce the potential influence of social desirability bias. Demographic information, including age, gender, and academic year, was also recorded. The gathered data were then subjected to thorough statistical analysis using IBM SPSS version 25. Descriptive statistics, including means, standard deviations, and frequency distributions, were calculated for demographic variables and scale scores. Pearson's correlation coefficient was used to assess the relationship between self-esteem and academic performance, with a significance level set at $p < 0.05$. Additionally, independent sample t-tests were employed to compare mean scores of self-esteem and academic performance across gender groups, while a one-way ANOVA was used to evaluate differences in academic performance across different academic years.

Prior to conducting the analysis, data were screened for missing values, normality, and outliers to ensure the validity and reliability of the results. The assumptions for parametric testing, including homogeneity of variances and normal distribution, were checked using Levene's test and Shapiro-Wilk's test, respectively, and appropriate corrections were applied if assumptions were violated. Ethical considerations were strictly adhered to throughout the study, ensuring that participant anonymity and confidentiality were preserved at all stages of data collection, analysis, and reporting (16). The results were interpreted in the context of existing literature to identify trends, correlations, and implications of the relationship between self-esteem and academic performance among physiotherapy students.

RESULTS

A total of 313 participants were included in the final analysis, with a female majority (70%) compared to male participants (30%). The mean age of the participants was 22.1 ± 1.4 years, ranging from 18 to 25 years. The academic year of the participants was divided into three groups: third year (33.5%), fourth year (32.3%), and fifth year (34.2%).

Table 1: Demographic Characteristics of Study Participants

Demographic Variables	Frequency (n)	Percentage (%)
Gender		
Male	94	30.0
Female	219	70.0
Age Group		
18-20 years	116	37.1
21-25 years	197	62.9
Academic Year		
3rd Year	105	33.5
4th Year	101	32.3
5th Year	107	34.2

The correlation analysis revealed a weak but significant positive relationship between self-esteem and academic performance, with a correlation coefficient of ($r = 0.249$, $p <$

0.01). The findings indicate that an increase in self-esteem is associated with a slight improvement in academic performance among the study participants (Table 2).

Table 2: Correlation Analysis Between Self-Esteem and Academic Performance

Variables	Rosenberg Self-Esteem Scale (RSES)	Academic Life Assessment Scale (ALAS)
RSES	1	0.249**
ALAS	0.249**	1
p-value	-	0.000

Correlation is significant at the 0.01 level (2-tailed). Independent sample t-tests were conducted to compare the mean scores of self-esteems (RSES) and academic performance (ALAS) between male and female participants. The mean self-esteem score for male participants was 26.89 ± 3.83 , while female participants had a mean self-esteem score of 27.12 ± 2.94 .

There was no statistically significant difference in self-esteem between male and female students ($p = 0.565$). Similarly, the mean academic performance score was comparable between male (72.53 ± 7.52) and female (72.46 ± 7.77) participants, with no significant gender differences observed ($p = 0.937$). The results are summarized in Table 3.

Table 3: Independent Sample T-Tests for Self-Esteem and Academic Performance by Gender

Variable	Gender	Mean	Std. Deviation	p-value
Rosenberg Self-Esteem Scale	Male	26.89	3.83	0.565
	Female	27.12	2.94	
Academic Life Assessment Scale	Male	72.53	7.52	0.937
	Female	72.46	7.77	

A one-way ANOVA was conducted to determine whether there were significant differences in academic performance scores across different academic years (third, fourth-, and fifth-year students). The results showed no statistically

significant differences in academic performance based on academic year ($F(2, 310) = 0.701$, $p = 0.497$), as shown in Table 4.

Table 4: One-Way ANOVA for Academic Performance Across Academic Years

Sum of Squares	df	Mean Square	F	p-value
Between Groups	83.059	2	41.529	0.701
Within Groups	18359.056	310	59.223	
Total	18442.115	312		

The study findings suggest a significant positive association between self-esteem and academic performance, indicating that students with higher levels of self-esteem tend to perform slightly better academically. However, the relationship is relatively weak, and no significant gender differences were found in either self-esteem or academic performance. Additionally, academic performance did not vary significantly across different academic years, suggesting that factors other than year of study may play a

more critical role in determining academic success among physiotherapy students.

DISCUSSION

The present study explored the association between self-esteem and academic performance among physiotherapy students in Rawalpindi and Islamabad. The findings revealed a weak but statistically significant positive correlation between self-esteem and academic performance, indicating that higher levels of self-esteem

were associated with better academic outcomes ($r = 0.249$, $p < 0.01$). This relationship is consistent with previous research, which has shown that self-esteem plays a critical role in shaping academic motivation, resilience, and coping strategies in educational settings (1). Students with high self-esteem are more likely to engage in effective learning strategies, demonstrate greater perseverance, and have a more positive attitude towards academic challenges, which collectively contribute to improved academic performance (2). In contrast, low self-esteem is often linked with increased anxiety, self-doubt, and reduced academic motivation, factors that can hinder academic success (3). The weak strength of the correlation observed in this study suggests that while self-esteem may influence academic performance, it is likely to be one of many contributing factors rather than a sole determinant.

Gender differences in self-esteem and academic performance were also examined. The results showed no significant difference in self-esteem scores between male and female participants, aligning with some studies that found gender similarities in self-esteem levels among university students (4). However, this contrasts with findings from other studies that have reported higher self-esteem among male students compared to female students (5). Similarly, academic performance did not differ significantly between male and female students, suggesting that both genders may be equally equipped to handle the academic demands of physiotherapy education. The lack of gender differences in academic performance is consistent with research indicating that academic outcomes are more strongly influenced by factors such as study habits, personal motivation, and institutional support rather than by gender alone (6). Nonetheless, the observed trend of female students having slightly higher academic performance aligns with studies that highlight female students' tendency to adopt more structured study approaches and exhibit greater academic discipline (7).

A one-way ANOVA analysis revealed no significant differences in academic performance across different academic years, indicating that academic performance was consistent among third, fourth, and fifth-year physiotherapy students. This finding suggests that the academic challenges faced by physiotherapy students may be similar across different stages of their education, or that students are able to adapt to increasing academic demands as they progress through the program. Previous studies have highlighted that academic performance in health-related programs is influenced by multiple factors, including academic self-concept, peer support, and faculty engagement, rather than just the level of education (8). Therefore, interventions to enhance academic performance should consider a holistic approach, focusing on psychological support, mentorship, and skill development across all academic years.

The study had several strengths, including a well-defined sample from multiple physiotherapy colleges, which enhances the generalizability of the findings to physiotherapy students in the region. Additionally, the use of validated instruments such as the Rosenberg Self-Esteem

Scale (RSES) and the Academic Life Assessment Scale (ALAS) ensured reliable measurement of the key variables. However, the study also had limitations. The cross-sectional design precluded any conclusions regarding causality, meaning that it is unclear whether high self-esteem leads to better academic performance or if academic success enhances self-esteem. Furthermore, the use of a non-probability convenience sampling technique may have introduced selection bias, limiting the external validity of the results. Another limitation was the reliance on self-reported measures, which may be subject to social desirability bias, as participants may have overestimated or underestimated their self-esteem and academic performance. Future research should consider employing longitudinal designs to explore the temporal relationship between self-esteem and academic performance and should include objective measures of academic performance to minimize potential biases.

The study findings have important implications for educators and policymakers in physiotherapy education. Enhancing students' self-esteem through targeted interventions such as confidence-building workshops, peer mentorship programs, and psychological support services could potentially improve academic outcomes. Educational institutions should also focus on creating supportive learning environments that promote self-worth and resilience among students, particularly during challenging phases of the academic journey.

Moreover, given that no significant differences were found between academic years, interventions should be applied uniformly across all levels to ensure consistent support for students' academic and psychological well-being. Future studies should investigate the impact of other psychosocial factors, such as emotional intelligence and self-regulation, on academic performance to provide a more comprehensive understanding of the determinants of academic success in professional health education (9).

CONCLUSION

The study concluded that there is a weak but significant positive association between self-esteem and academic performance among physiotherapy students, indicating that higher levels of self-esteem are linked to slightly better academic outcomes. Although gender and academic year did not significantly influence this relationship, the findings emphasize the importance of promoting self-esteem in educational settings to support academic success. For human healthcare implications, enhancing self-esteem in future healthcare professionals can contribute to better educational experiences and, ultimately, improve their competency and confidence in clinical practice, thereby fostering a more resilient and effective healthcare workforce.

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