

FACTORS INFLUENCING POSTGRADUATE STUDENTS' ACADEMIC PERFORMANCE: A QUALITATIVE STUDY

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ABSTRACT

OBJECTIVES

This study aimed to explore factors affecting academic performance among postgraduate students.

METHODOLOGY

A qualitative study using a grounded theory approach was conducted from May to October 2024 at Khyber Medical University, Peshawar. Twelve postgraduate students from various academic programs were recruited through purposive sampling. Data were collected through semi-structured Zoom interviews and analyzed using deductive thematic analysis, following Braun and Clarke's approach and guided by Tinto's theoretical framework. Strategies, including member checking and reflexive memoing, were employed to ensure credibility.

RESULTS

Five major themes emerged from the analysis: academic performance trajectory, prior academic background, motivation and personal attributes, academic workload and challenges, and institutional and peer support. Participants reported two main academic patterns: initial success followed by academic decline and initial challenges followed by gradual improvement. Factors facilitating academic success included peer support, motivation, structured coursework, and effective time management. Conversely, challenges such as complex research requirements, family responsibilities, commuting difficulties, and heavy workload negatively affected academic performance.

CONCLUSION

Postgraduate academic performance is shaped by a dynamic interaction of personal, academic, social, and institutional factors, consistent with Tinto's student integration framework. Strengthening institutional support systems, mentorship, and peer learning environments may enhance postgraduate student engagement, academic success, and retention.

KEYWORDS: Postgraduate Education, Academic Performance, Student Retention, Tinto Model, Qualitative Research, Higher Education

INTRODUCTION

Academic performance is a key indicator of success in postgraduate medical education, reflecting learners' ability to acquire, integrate, and apply advanced knowledge and clinical skills required for professional practice. The primary goal of medical education is to develop competent physicians who possess strong cognitive abilities, critical thinking skills, and professional attributes necessary to respond effectively to evolving healthcare demands and scientific advancements.¹ In recent years, medical education has increasingly shifted toward competency-based,

outcome-oriented frameworks, emphasizing measurable competencies and accountability for training outcomes.² Longitudinal tracking of students' educational progress has therefore become essential for understanding how competencies develop over time and for informing evidence-based educational policies and standards.^{3,4} Multiple interacting factors influence academic performance in postgraduate medical education. Traditional predictors such as preclinical and clerkship grade point averages, written examination scores, and clinical assessments have long been used to estimate future professional success.⁵⁻⁶ However, growing evidence suggests that non-cognitive attributes,

including motivation, resilience, personality traits, and professional behaviors, also play an important role in shaping educational and clinical outcomes.⁷ Despite their recognized importance in developing empathetic and competent physicians, medical curricula often lack structured approaches to nurture these competencies among learners systematically.⁸ Academic performance is increasingly recognized as a multidimensional construct influenced by the interaction of personal, educational, institutional, and socio-environmental factors. Personal factors include cognitive abilities, motivation, self-regulation, and time management skills. Educational factors relate to curriculum design, instructional quality, mentorship, and access to learning resources. Institutional influences encompass the broader learning environment, organizational policies, and availability of academic support services. Additionally, socio-environmental conditions such as family support, peer interactions, financial pressures, and work-life balance can substantially affect students' learning experiences and academic outcomes.⁹ Despite recognition of these diverse influences, the existing literature remains inconclusive about the relative contributions of cognitive and non-cognitive factors to academic success. Some studies report significant associations between attributes such as conscientiousness, resilience, and stress management with academic performance, whereas others demonstrate weak or inconsistent relationships.¹⁰ This variability suggests that isolated predictors cannot explain academic performance; rather, it emerges from complex interactions between individual characteristics and contextual learning environments. Furthermore, limited research has examined how these combined factors influence postgraduate research performance and scholarly productivity, which are critical components of postgraduate training. An additional concern in postgraduate medical education is the growing prevalence of stress and burnout among trainees. Burnout, defined as a syndrome characterized by emotional exhaustion, depersonalization, and reduced personal accomplishment related to professional activities, has been widely documented among medical learners and healthcare professionals.¹¹ High levels of stress and burnout may negatively affect motivation, learning engagement, and overall academic performance, yet their influence on postgraduate research outcomes remains insufficiently explored. Given these gaps, a comprehensive understanding of the factors influencing postgraduate academic performance is needed. Therefore, this study aims to examine how institutional, individual, environmental, and supervisory factors influence the research performance of postgraduate medical students. By identifying the relative impact of these determinants,

the study seeks to provide evidence that can inform educational policies, improve institutional support systems, and ultimately enhance academic success and professional development among postgraduate medical trainees.

METHODOLOGY

This qualitative study was conducted from May 2024 to October 2024 at Khyber Medical University, Peshawar. Ethical approval was obtained from the KMU-IHPE Ethical Review Board (Ref. No. 1-11/IHPE/MHPE/KMU/24-05, dated 09-10-2024). Written informed consent was obtained from all participants prior to data collection. A total of 12 postgraduate students (male and female) enrolled in postgraduate programs at Khyber Medical University were recruited using a purposive sampling technique to select participants who could provide rich, relevant information about the phenomenon under investigation.¹ Participants took part in in-depth interviews to explore factors influencing their academic experiences during postgraduate training. A qualitative research design was chosen to gain an in-depth understanding of participants' experiences, perceptions, and contextual factors influencing academic performance.² The study was conceptually informed by Tinto's Model of Student Integration, which explains how students' persistence and academic success are shaped by their level of academic and social integration within an educational institution.⁴ This framework was selected because it provides a useful theoretical lens for examining how institutional, social, and individual factors interact to influence postgraduate students' academic experiences. Postgraduate students who had completed at least one academic semester in their postgraduate program at Khyber Medical University and were willing to participate voluntarily were included in the study. Students who had experienced significant academic interruptions or prolonged breaks during their postgraduate studies, or those who reported substantial academic decline during their training, were excluded from the study. Sampling continued until data saturation was achieved, defined as the point at which no new themes or meaningful insights emerged from additional interviews.⁵ The interview guide was developed based on the key constructs of Tinto's Model of Student Integration, focusing on academic, social, and institutional factors influencing postgraduate students' experiences. A pilot interview was conducted to assess the clarity, relevance, and comprehensiveness of the questions. Based on feedback from the pilot interview, necessary revisions were made, and the final semi-structured interview guide was established. Participants were invited via email, and interviews were

conducted through online Zoom meetings. All interviews were conducted by the primary researcher and were audio-recorded with participants' consent. The interviews ranged in duration from 45 to 60 minutes. All interviews were transcribed verbatim, and transcripts were reviewed twice by the researcher to ensure accuracy. To maintain confidentiality and anonymity, all identifying information, including personal names and institutional identifiers, was removed from the transcripts. Participants were offered the opportunity to review the transcripts and preliminary findings (member checking) to ensure accuracy and credibility of the data. Participants preferred receiving summarized transcripts and key findings, which were subsequently shared with them. Data were analyzed using thematic analysis following the six-phase approach described by Braun and Clarke.¹¹ The analysis was guided by the conceptual framework derived from Tinto's Model of Student Integration, which informed the development of initial coding categories. The process involved familiarizing oneself with the data through repeated reading of transcripts, generating initial codes, organizing codes into potential themes, reviewing and refining themes, defining and naming themes, and producing the final thematic structure. To enhance credibility, a two-step member-checking process was conducted. In the first step, the researcher summarized the key points from participants' responses during or after the interviews to ensure that the interpretations accurately reflected their perspectives. In the second step, participants were invited to review the emerging conceptual model and assess its relevance, completeness, and comprehensiveness in explaining the phenomenon under investigation. Feedback obtained through this process was incorporated into the analysis, and the final thematic model was refined through discussion with research team members, ensuring analytical rigor and consistency in interpretation. The primary researcher, who conducted the interviews and initial coding, maintained reflexive awareness throughout the research process. Reflexive notes and analytic memos were documented during data collection and analysis to critically reflect on potential assumptions, biases, and interpretations that could influence the research process. Regular discussions with co-authors were conducted to review coding decisions and emerging themes, thereby enhancing reflexivity and ensuring that interpretations remained grounded in participants' perspectives.

RESULTS

Table 1: Demographic Data of the Participants

Variable	Characteristics	Frequency (n)	%age
Gender	Male	05	42
	Female	07	58
Program Enrolled	MHPE	07	58.5
	MSN	01	8.3
	EPI & BIO	01	8.3
	MHR	01	8.3
	M.Phil	01	8.3
	MPH	01	8.3

Table 2: Themes and Subthemes Influencing Postgraduate Academic Performance

Theme	Subthemes	Representative Quote
Academic Performance Trajectory	Initial Success followed by decline	"My Experience in the first year was very good." (Respondent 1)
	Initial Challenges followed by improvement	"Honestly speaking, in the first year, it was very tough" (Respondent 5)
Prior Academic Background	Familiarity with course content	"My success was because these subjects were a repetition of what I studied earlier." (Respondent 10)
	Lack of familiarity with discipline	"Everything was new for me... I was not familiar with the terminology of medical education." (Respondent 7)
Motivation and Personal Attributes	Enthusiasm and intrinsic motivation	"The key factor during the first year was my enthusiasm and interest." (Respondent 8)
	Career advancement motivation	"It would give extra marks for promotion, so it was an incentive for us." (Respondent 5)
Academic Challenges and Workload	Increased research and statistical demands	"I struggled with the increased emphasis on research and statistical analysis." (Respondent 11)
	Complex coursework and workload	"The increased complexity of topics and workload became difficult to manage." (Respondent 9)
Personal and Environmental Challenges	Family responsibilities	"It was difficult to manage everything with family responsibilities and work commitments." (Respondent 10)
	Travel and commuting challenges	"Traveling several hours drained my energy and made me think about quitting." (Respondent 8)
Peer and Social Support	Support from classmates	"My batch fellows were always supportive and encouraged me to continue." (Respondent 8)
Institutional Support and Course Structure	Need for academic advising and tutoring.	"The university should provide personalized academic support." (Respondent 2)
	Need for flexible course structure.	"The sessions should be shorter and more frequent." (Respondent 1)

The findings demonstrate that postgraduate academic performance is influenced by multiple interacting factors across personal, academic, social, and institutional domains, consistent with Tinto's model of student integration. While prior academic background and initial motivation facilitated early academic success, challenges such as increased research workload, family responsibilities, and commuting difficulties contributed to declines in performance for some students. Conversely, peer support, effective time management, and institutional resources played a crucial role in helping students adapt to postgraduate academic demands

DISCUSSION

The present study identified several factors influencing postgraduate students' academic performance, which may act as either facilitators or hindrances. Consistent with Tinto's model of student integration, academic trajectories may follow different patterns, including initial success followed by mid-program decline and eventual recovery, or initial academic challenges followed by gradual improvement. The findings of the current study reflect similar patterns. Participants emphasized that maintaining a structured academic schedule, prioritizing learning activities, and sustaining focus on coursework were essential for achieving strong academic outcomes. Furthermore, a supportive learning environment and supervisors' encouragement were identified as important contributors to positive academic performance. The study also highlighted several factors contributing to academic difficulties during postgraduate education. Participants reported that family responsibilities, unfamiliarity with course content, increased academic workload, and complex research requirements often contributed to declining academic performance. Some students initially performed well due to familiarity with early coursework; however, as the curriculum progressed and became more research-intensive, challenges related to time management, research skills, and unfamiliar subject matter became more pronounced. Additionally, participants who resumed education after a prolonged academic break reported difficulties adapting to the demands of postgraduate study. Conversely, several factors were associated with improved academic performance. Participants emphasized the importance of peer encouragement, structured course design, regular attendance, active participation in learning activities, and effective time management. These findings highlight the importance of both individual and environmental factors in shaping academic outcomes during postgraduate education. Previous research has similarly reported that personal, institutional, and peer-related factors are critical determinants of academic

performance. Studies have shown that students' personal characteristics, combined with institutional limitations and peer influences, play a significant role in shaping academic outcomes.¹² The findings of the present study support this perspective, demonstrating a positive relationship between institutional support and students' academic experiences. Participants particularly emphasized the importance of faculty mentorship and supervisory guidance for both academic development and personal motivation. Similar observations have been reported in studies examining postgraduate students' satisfaction with their educational environments. Research has demonstrated that the quality of the learning environment, organizational support, and administrative structures significantly influence postgraduate students' academic satisfaction and performance.¹⁴ In addition, family responsibilities and psychological factors have been shown to influence students' academic engagement and performance. Some studies have suggested that students' physical, psychological, and emotional well-being may influence their ability to maintain consistent academic progress.¹⁴ Although the participants in the present study did not uniformly emphasize administrative roles, several acknowledged the importance of family support and psychological well-being, which aligns with these findings. Other studies have also highlighted the importance of campus life quality and student engagement as predictors of academic success.¹⁵ Research involving larger student populations suggests that active participation in campus activities and engagement with academic communities can significantly influence learning outcomes. These factors were not strongly emphasized by participants in the current study, which may be explained by the smaller sample size and the specific characteristics of the postgraduate programs represented in this research. Larger samples often capture a wider range of institutional experiences and student perspectives. Similarly, other studies have identified the interaction of academic, personal, and institutional factors as important contributors to academic performance.⁴ Ladyshevsky et al. highlighted the role of learning modes and teaching approaches in shaping students' academic outcomes.¹⁶ Their study demonstrated that the teaching delivery mode and alignment with students' learning styles may significantly influence academic achievement. Although participants in the present study did not prominently highlight this factor, it may reflect differences in research focus and methodology. The current study relied on qualitative interviews with a relatively small group of postgraduate students, whereas Ladyshevsky's research examined influences on learning modes within a larger sample. Additional research has emphasized the influence of institutional

quality, academic reputation, student facilities, and degree credibility on students' academic success.⁹ These institutional characteristics contribute to students' motivation and engagement with their academic programs. Similarly, Muthukrishnan et al. emphasized the importance of institutional support, self-management skills, and research competencies in determining postgraduate academic performance.¹⁷ Their findings suggest that strong research skills are particularly important for postgraduate students, as inadequate research competence may negatively affect academic outcomes. Interestingly, their study suggested that supervisors may have limited influence on postgraduate academic performance, which contrasts with the current study's findings, in which participants frequently highlighted the positive role of supervisory mentorship. This discrepancy suggests that supervisors' influence may vary across institutional contexts and educational environments. Another study examining postgraduate students reported a relationship between dietary habits and academic performance, suggesting that unhealthy eating patterns such as frequent consumption of high-sugar or fast-food meals may be associated with declining academic outcomes¹⁸. Although this factor was not explored in depth in the present study, it highlights the potential role of broader lifestyle factors in influencing academic success. Further research is needed to better understand the extent to which such variables contribute to postgraduate academic performance. Overall, the findings of the present study reinforce the multidimensional nature of academic performance in postgraduate education. Academic success is influenced not only by cognitive abilities but also by personal motivation, institutional support, peer interactions, and external life circumstances. The findings of this study have important implications for postgraduate education and institutional policy development. First, universities should strengthen academic support systems, including structured mentoring programs, academic advising, and research skills training, to help students adapt to the increasing complexity of postgraduate coursework and research requirements. Second, institutions should consider implementing flexible learning structures, such as hybrid learning opportunities, improved scheduling of contact sessions, and enhanced access to learning resources. These measures may help postgraduate students who balance professional responsibilities, family commitments, and academic demands. Third, promoting peer learning and collaborative academic environments may enhance social integration and student engagement. Peer mentorship programs and collaborative study groups may provide both academic and emotional support for postgraduate learners. Finally, institutions should adopt a holistic approach to

postgraduate student support, recognizing the influence of personal, psychological, and socio-environmental factors on academic performance. Addressing these factors through counseling services, wellness programs, and academic development initiatives may help improve postgraduate student retention and success.

LIMITATIONS

The study relied on self-reported experiences, which may be influenced by recall bias. However, strategies such as member checking and reflexive analysis were used to enhance credibility. The qualitative design explored participants' experiences rather than establishing causal relationships. Future studies using larger samples and mixed-method approaches may provide broader insights into factors influencing postgraduate academic performance.

CONCLUSIONS

The present study, supported by the referenced literature, identifies several key factors influencing academic performance among postgraduate students. Students' learning attitudes, institutional support, economic conditions, and family responsibilities emerged as important determinants of academic outcomes. Additionally, factors such as campus engagement, teaching and learning methods, psychological well-being, and lifestyle factors may also contribute to academic performance. These findings suggest that postgraduate institutions should adopt comprehensive support strategies that address both academic and non-academic factors affecting student success. Strengthening institutional support systems, promoting peer collaboration, and facilitating effective mentorship may help improve postgraduate students' academic experiences and overall performance. Further research with larger, more diverse samples is recommended to better understand the complex factors influencing postgraduate academic outcomes.

DECLARATION STATEMENT

The authors declare that artificial intelligence (AI) tools were used solely to assist with language refinement, grammar correction, and text organization during manuscript preparation. No AI tools were used to generate, analyze, or interpret data, nor to draw scientific conclusions. All intellectual content, including study design, data analysis, and interpretation, remains the original work of the authors. The authors have critically reviewed and finally edited the manuscript to ensure its originality and alignment with the research objectives. The authors take full responsibility for the final content of the manuscript.

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The authors accept responsibility for all aspects of the work and will ensure that any concerns regarding the accuracy or integrity of any part are properly investigated and resolved.