

Factors Influencing Study Program Choice and Learning Outcomes among Pre-Clinical Students of the Faculty of Medicine, University of Alkhairaat Palu

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ABSTRACT

Medical Education plays a crucial role in producing competent healthcare professionals. Both the decision to choose a medical study program and the academic performance of students are influenced by various internal and external factors.

The study purpose was to identify factors influencing the choice of the medical study program and the learning outcomes among pre-clinical students at the Faculty of Medicine, University of Alkhairaat Palu.

Materials and methods. A descriptive qualitative approach was employed. Data were collected through in-depth interviews with pre-clinical medical students at University of Alkhairaat Palu. Data were analyzed thematically using ATLAS.ti 25 software.

Results. The study revealed that choosing the medical program was driven by personal interest, family encouragement, professional prestige and long-term career goals. Students' learning outcomes were influenced by internal factors including family support, social environment, and campus facilities. A significant relationship was observed between the initial motivation for choosing medicine and students' persistence in learning, which affected their academic performance.

Conclusions. Both the choice of study program and learning outcomes among pre-clinical medical students are shaped by interconnected personal and environmental factors. Understanding these factors can help educational institutions design more effective strategies for learning support and academic guidance to enhance students success.

Keywords: Study program choice, learning outcomes, pre-clinical students, medical education.

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INTRODUCTION

Medical education is a rigorous journey that aims to produce competent healthcare professionals capable of responding to the complexities of patient care and public health needs. Globally, medical curriculum are structured into pre-clinical and clinical phases. The pre-clinical stage serves as a critical foundation for developing theoretical knowledge, scientific reasoning, and basic clinical skills essential for subsequent clinical practice (Pristiwanti et al., 2022; Harden, 2006).

The decision to pursue a medical degree is often influenced by diverse factors, ranging from personal interests to socio-cultural pressures. Many students are driven by intrinsic motivations such as curiosity about human biology, a desire to help others, and personal fulfillment (Al Ismiarif et al., 2023). However, extrinsic factors like parental expectations, societal prestige associated with the medical profession, and perceived economic security also strongly shape career choices (Jannah et

al., 2020; Brown et al., 2011). A study by Brown et al. (2011) found that over 60% of medical students cited family influence and social recognition as significant reasons for selecting medicine.

Beyond choosing the field, maintaining strong academic performance throughout medical school is essential. Medical education is characterized by high cognitive loads, intense schedules, and frequent assessments, which contribute to elevated stress levels among students (Dyrbye et al., 2006; Mona & Yunita, 2021). Factors affecting academic outcomes include individual traits such as learning styles, motivation, mental and physical health, and external elements like social support, learning resources, and institutional culture (Andri et al., 2023; Stewart et al., 1999).

Data from the Faculty of Medicine, University of Alkhairaat Palu, show a decline in students' average GPA—from 3.01 in the 2021 cohort to 2.79 in 2022, and slightly up to concerns about the factors influencing students' learning outcomes. Furthermore, selecting the medical program itself is shaped by personal interest, family expectations, professional prestige, and long-term career aspirations (Al Ismiarif et al., 2023; Mona & Yunita, 2021).

Evidence suggests that an alignment between students' motivations for choosing medicine and their engagement in academic activities is crucial for achieving optimal learning outcomes. Discrepancies between expectations and reality can lead to dissatisfaction, stress, and ultimately lower academic performance (Mona & Yunita, 2021; Dyrbye et al., 2006).

Understanding these dynamics is crucial for educational institutions aiming to improve student retention, academic performance, and well-being. Identifying the factors influencing both the choice of medical study programs and learning outcomes can help shape supportive interventions, career counseling, and tailored educational strategies (Harden, 2006; Andri et al., 2023).

This study aimed to identify factors influencing both the choice of the medical study program and the learning outcomes among pre-clinical students at the Faculty of Medicine, University of Alkhairaat Palu.

MATERIALS AND METHODS

Study participants

Participants in this study were pre-clinical medical students enrolled at the Faculty of Medicine, University of Alkhairaat Palu. A purposive sampling technique was used to select students who represented diverse academic standings, gender, and personal backgrounds to capture a wide range of perspectives regarding study program choice and learning experiences.

Study organization

This study employed a descriptive qualitative design. Data were collected through in-depth, semi-structured interviews conducted either in person or via secure online platforms to accommodate participants' schedules and preferences. Interviews explored participants' reasons for choosing the medical program, factors influencing their learning experiences, and perceived challenges or supports affecting academic performance. Each interview lasted approximately 45-60 minutes and was audio-recorded with participants' consent. Ethical clearance was obtained from the institutional ethics committee of University of Alkhairaat Palu.

Statistical analysis

Data from the interviews were transcribed verbatim and analyzed thematically using ATLAS/ti 25 software. Coding was performed in multiple stages, beginning with open coding to identify significant concepts, followed by axial coding to establish connections among themes. The researchers independently coded transcripts, and discrepancies were resolved through discussion to ensure reliability. Descriptive statistics were used to summarize participants' demographic data.

RESULTS

Participant Characteristics

A total of 20 pre-clinical medical students participated in this study. Participants included both male and female students from different academic years. Their academic performance varied, with reported GPAs ranging from 2.50 to 3.50. The majority of participants indicated that they had chosen the medical program as their first choice during university admission. Trends in GPA fluctuations among cohorts reflect concerns noted in prior reports of academic challenges in medical education.

Factors Influencing Study Program Choice

Analysis revealed several dominant themes regarding why students chose the medical study program:

Personal interest

Many students expressed a strong personal interest in human anatomy, medical science, and the desire to help others. Participants described medicine as a “calling” and a path aligned with studies that emphasize intrinsic motivation as a core driver for entering medicine.

Family Influence

Family expectations played a significant role. Some participants indicated that parents or relatives working in the medical field inspired them to pursue medicine. For others, parental encouragement was a key motivator, consistent with findings that family influence significantly shapes career choice in healthcare professions.

Professional Prestige

Several participants cited the perceived social status, respect, and financial stability associated with being a doctor as important factors influencing their decision. This mirrors global trends where medicine remains a highly prestigious career path.

Long-Term Career Goals

Students discussed clear long-term plans, including becoming specialists, working abroad, or contributing to healthcare improvements in their home communities, aligning with prior findings about career aspirations as significant motivator.

Table 1. Factors Influencing Choice of Medical Study Program

Factor	Number of Participants Mentioning	Percentage (%)
Personal Interest	15	75%
Family Influence	12	60%
Professional Prestige	10	50%
Long-Term Career Goals	9	45%

At table 1, the primary reasons cited by students for choosing the medical study program. Personal interest was the most frequently mentioned factor (75%), followed by family influence (60%).

Factors Influencing Learning Outcomes

Participantss Identified both internal and external factors affecting their academic performance:

Internal Factors

Motivation: Highly motivated students reported being more focused, diligent, and resilient in handling academic challenges. This confirms existing research highlighting motivation as a predictor of success in medical school.

Physical and Mental Health: Illness, fatigue, and psychological stress were frequently cited as barriers to effective study, consistent with reports linking high stress to lower academic performance among medical students.

Learning Style: Students described varying preferences for visual, auditory, or kinesthetic learning, influencing how well they absorbed material, reflecting findings that individual learning styles impact educational outcomes

External Factors

Family support: Emotional encouragement and financial stability provided by family were noted as essential for maintaining focus and managing stress, echoing Mona and Yunita (2021).

Social Environment: Positive peer relationship encouraged study collaboration, while negative social influences led to distractions, aligning with prior research on the influence of peer support networks.

Campus Facilities: Participants highlighted issues such as insufficient study spaces, limited library resources, and outdated laboratory equipment, concerns also cited in earlier research on barriers to learning in medical education (Harden 2006)

Table 2. Factors Influencing Learning Outcomes

Factor Category	Specific Factors	Number of Participants Mentioning (%)
Internal	Motivation	16 (80%)
Internal	Physical and Mental Health	14 (70%)
Internal	Learning Style	12 (60%)
External	Family Support	13 (65%)
External	Social Environment	10 (50%)
External	Campus Facilities	8 (40%)

Table 2 presents internal and external factors reported to influence students' learning outcomes. Motivation was the most frequently mentioned internal factor (80%). Among external factors, family support was prominent (65%).

Relationship Between Study Program Choice and Learning Outcomes

A clear link was identified between students' reasons for choosing medicine and their academic engagement. Participants who chose medicine based on personal interest or a strong sense of purpose reported greater perseverance and higher GPAs. This aligns with literature indicating that intrinsic motivation is a strong predictor of academic resilience. Conversely, Students who selected medicine primarily due to external pressures such as parental expectations often reported stress, uncertainty, and lower academic performance.

DISCUSSION

This study provides insights into the factors influencing both the choice of medical study programs and learning outcomes among pre-clinical students at University of Alkhairaat Palu. The findings highlight a complex interplay between intrinsic motivations, external pressures, and contextual educational factors.

Consistent with previous research, personal interest emerged as a major driver for students choosing medicine. Many participants described a deep fascination with human biology, disease processes, and desire to help others. Intrinsic motivation has long been associated with increased engagement, resilience, and academic success in demanding professional programs like medicine (Deci & Ryan, 2000; Kusurkar et al., 2011; Al Ismiarif et al., 2023). Such motivations provide essential psychological resources for coping with stress and heavy academic workloads (Artino, 2012).

However, family influence continues to play a significant role. In this study, over half of the students cited parental expectations, family tradition, or role models in the medical field as influential factors. This finding aligns with global evidence showing that family expectations can heavily shape career decisions, sometimes leading students into medical school despite limited personal interest (Brown et al., 2011; Jannah et al., 2020; Buddeberg-Fischer et al., 2003). While family support can be protective, excessive external pressure may undermine intrinsic motivation and contribute to psychological distress (Dyrbye et al., 2006; Kusurkar et al., 2011).

Another significant factor relates to the prestige of the medical profession. Many participants mentioned the social respect, financial stability, and career security associated with becoming a doctor. The notion of medicine as a prestigious and high-status career persists globally and continues to influence student choices (Harden, 2006; Buddeberg-Fischer et al., 2003; Brown et al., 2011). While prestige can be motivating, students driven solely by status or external rewards may face difficulties sustaining engagement when confronted with the realities of medical training (Deci & Ryan, 2000; Kusurkar et al., 2013).

Regarding learning outcomes, this study underscores the significance of motivation, health, and learning styles as internal factors influencing academic performance. Highly motivated students demonstrated greater persistence and problem-solving skills in coping with academic challenges, confirming findings from previous research (Stewart et al., 1999; Kusurkar et al., 2011). Conversely, students experiencing physical or mental health problems often reported difficulty maintaining study consistency, echoing widespread concerns about stress and burnout among medical students worldwide (Dyrbye et al., 2006; Rotenstein et al., 2016; Mona & Yunita, 2021).

Learning styles also emerged as relevant, with participants identifying themselves as visual, auditory, or kinesthetic learners. Those with kinesthetic preferences described struggles adapting to traditional lecture-heavy formats, emphasizing the importance of flexible, multimodal teaching approaches in medical education (Koln, 1984; Stewart et al., 1999).

Among external factors, family support was highlighted as crucial. Emotional encouragement and financial assistance provided stability and resilience, aligning with findings that social support buffers stress and enhances academic performance (Stewart et al., 1999; Mona & Yunita, 2021). Similarly, peer relationships and the broader social environment were associated with academic engagement and well-being, supporting previous evidence that collaborative learning and supportive networks are vital in medical training (Stewart et al., 1999; Artino, 2012).

However, limitations in campus facilities were frequently cited, including inadequate study spaces, outdated resources, and overcrowded classrooms. Infrastructure deficiencies have been shown to

directly affect student satisfaction and learning efficacy (Harden, 2006; Yusoff et al., 2013). Adequate facilities and modern resources are increasingly recognized as essential for promoting student-centered learning and reducing stress (Artino, 2012).

Crucially, this study identified a strong link between initial motivation for entering medicine and subsequent academic engagement and success. Students who entered the program driven by personal passion and clear career goals demonstrated greater resilience and higher GPAs. In contrast, those whose choice was predominantly shaped by external pressure often reported higher stress, self-doubt, and lower academic performance. This pattern resonates strongly with self-determination theory, which emphasizes the critical role of autonomous motivation in sustaining engagement and well-being in high-demand educational contexts (Deci Ryan, 2000; Kusurkar et al., 2013).

Limitations of this study include its qualitative design and relatively small sample size, which may affect generalizability. Nevertheless, the in depth interviews provide rich, context-specific insights into medical student experiences at University of Alkhairaat Palu. Future research could employ quantitative approaches to test the strength of associations between identified factors and academic performance, as well as examine interventions designed to align student motivations with medical career pathways. Overall, the findings underscore the importance of holistic support strategies in medical education. Institutions should implement career counseling, mentorship programs, mental health services, and flexible teaching methods to accommodate diverse learning needs. Identifying students whose motivations may be externally driven and providing targeted guidance could help reduce burnout, improve retention, and enhance overall student success (Rotenstein et al., 2016; Kusurkar et al., 2013).

CONCLUSIONS

This study highlights the multifactorial nature of choosing a medical study program and achieving academic success among pre-clinical students at University of Alkhairaat Palu. Both intrinsic factors, such as personal interest and motivation, and extrinsic factors, including family influence, social prestige, and learning environments, significantly shape students' educational experiences and outcomes.

Importantly, the alignment between students' initial motivations for pursuing medicine and their ongoing engagement in learning emerged as a critical determinant of academic performance and well-being. Students driven by genuine personal interest and clear career goals demonstrated greater perseverance and academic achievement, whereas those influenced primarily by external pressures were more vulnerable to stress and lower academic outcomes.

These findings underscore the need for medical faculties to implement comprehensive support strategies, including career counseling, mental health services, and flexible teaching approaches that accommodate diverse learning styles. Addressing both personal and contextual factors can enhance students satisfaction, reduce burnout, and promote success in medical training.

Future research should explore these relationships quantitatively, examining how specific factors predict academic performance across larger and more diverse student populations. Additionally, intervention studies evaluating the effectiveness of support programs could provide valuable guidance for medical education policy and practice

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