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ASSESSING ACADEMIC, CAREER, AND PSYCHOLOGICAL CONCERNS AMONG MEDICAL STUDENTS: IMPLICATIONS FOR TAILORED SUPPORT PROGRAMS

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ABSTRACT

Introduction: This study aims to investigate the primary concerns of medical students and their support needs, focusing on academic, career, and psychological challenges. The research questions address how these concerns vary by academic year and gender and seek to identify students' preferences for counseling and support types.
Methods: A cross-sectional survey was conducted with 135 medical students from first to sixth year. Data on concerns, academic year and gender differences, and counseling preferences were collected and analyzed using frequency analysis, t-tests, ANOVA, and correlation analysis.
Results: The study found that career choice and academic performance were the most significant concerns. Female students reported more emotional and study-related challenges than male students. A strong correlation was observed between academic performance, study motivation, and emotional issues, with career and major concerns intensifying in higher years. Students preferred face-to-face counseling once or twice per year, favoring professional counselors or clinical faculty advisors.
Conclusion: The findings highlight the need for tailored support programs to address diverse student concerns, emphasizing the importance of strengthening academic, career, and psychological support systems in medical schools.

Keywords: medical school, concerns, academic stress, career choice, counseling

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INTRODUCTION

Medical schools attract highly motivated students who have successfully overcome intense competition to gain admission and strive for high academic achievement. These students, while sharing common traits with peers in other fields, face unique academic and personal challenges. Recent studies reveal that medical students frequently experience stressors related to academics, career uncertainty, and psychosocial issues, which impact their mental well-being and academic performance [1–4]. Specific burdens include heavy workloads, rigid curricula, numerous exams, and fear of failure due to high academic standards [5–7]. Research shows that during transitions, such as moving from preclinical to clinical stages, academic stress intensifies and can lead to severe mental health issues, including anxiety, depression, and even suicidal ideation. These challenges, frequently observed in both domestic and international studies, contribute to a vicious cycle of stress and academic underperformance, affecting students' mental health and hindering their career progress [8].

In addition to academic stress, medical students grapple with questions regarding their career direction, social relationships, and interpersonal issues [9]. They often struggle with competitive dynamics, maintaining relationships with professors, and managing social interactions, experiencing heightened psychological distress relative to their peers. Particularly in the second and third years of study, students face peak levels of academic and interpersonal stress, which negatively affects both empathy and academic performance. Such stressors underscore the importance of systematic support, such as counseling and mentoring programs, which students report as insufficient [8].

Medical students also face challenges in forming professional identities and managing time effectively amidst health concerns like fatigue, lack of sleep, and burnout, which can detract from long-term well-being and academic success [6, 10]. High levels of psychological distress among medical students, reported across multiple studies, are associated with adverse outcomes such as depression, burnout, and reduced empathy [11–13]. These findings highlight the need for tailored student support systems, as emphasized by institutions evaluating counseling structures within medical schools [9]. Faculty members play a crucial role not only in academic guidance but also in addressing students' personal challenges, alleviating academic pressures, and providing mentoring to support both their psychological and social development.

This study aims to analyze the nature and intensity of concerns faced by students at a single medical school, identifying common issues related to academics, career, and psychological well-being. By systematically examining these areas, the study seeks to clarify how faculty and institutional support can effectively alleviate student stressors. Insights from this research are intended to guide the development of targeted support strategies that enhance student

well-being and foster success throughout their medical education and future careers.

METHODS

Ethics statement: This study was approved by the Institutional Review Board (IRB) of Sungkyunkwan University of Korea (IRB approval no., SKKU 2024-02-038). A waiver of informed consent was also included in the IRB approval.

Study design: This is a survey result-based cross-sectional descriptive study.

Setting and Participants: This study was conducted in April 2023 at a medical school in Korea. The participants were first- to sixth-year medical students. A total of 240 students were invited to participate, and the survey was conducted entirely online. Prior to the survey, participants were informed about the purpose of the study, the content of the survey, and the confidentiality of their responses. Only those who voluntarily agreed to participate were included in the study. Out of the 240 invited students, 135 completed the survey, yielding a response rate of 56.25%.

PARTICIPANTS

Table 1 presents the general characteristics of the study participants, including gender and year of study. A total of 135 students participated in the study, with 66.67% male (n = 90) and 33.33% female (n = 45). The distribution by year of study indicates a broad representation across six years, with the highest percentage in the first year (27.41%) and a gradual decrease among upperclassmen.

Table 1. The general characteristics of the respondents

General Characteristics		Number	Percentage (%)
Gender	Male	90	66.67
	Female	45	33.33
Year of Study	1st year	37	27.41
	2nd year	20	14.81
	3rd year	19	14.07
	4th year	14	10.37
	5th year	23	17.04
	6th year	22	16.30
	Total	135	100

Values are presented as number (%).

Variables and Data Collection: To identify the specific concerns of medical students, the survey was designed to cover areas such as academic performance, career planning, psychological and social challenges, and personal well-being. The following categories were addressed in the questionnaire: Career concerns, Academic performance, Peer relationships, Romantic relationships, Family issues, Financial problems, Health issues, Emotional and personality-related concerns (e.g., depression, anxiety, self-esteem), Academic motivation (e.g., willpower, passion, and enthusiasm), Learning strategies and methods, Self-growth motivation. Each concern was rated on a scale from 0 (no concern) to 9 (extremely concerned). A total of 11 items were used to assess the students' concerns, and the reliability of these items was confirmed with a Cronbach's α of 0.85. The survey also included questions about the students' preferences for counseling services. Variables such as the number of counseling sessions, preferred timing, session duration, counselor type, and counseling format (in-person, online, email, or other methods) were collected.

Data Sources and Measurement: The primary data source was the online survey, which was distributed to students via email. All responses were anonymized and stored securely. The reliability of the items used to measure student concerns was evaluated using Cronbach's α, which indicated a high level of internal consistency ($\alpha = 0.85$). The survey was based on previous research regarding medical student difficulties and psychological challenges [1–4, 14–15].

Bias: This study may have selection bias, as participation was voluntary. To address this, broad participation was encouraged, and anonymity was ensured to reduce social desirability bias. Self-reported data may also introduce response bias, but anonymity was emphasized to minimize this.

Study size: The sample included all students from the first to sixth year, with 135 respondents. A post hoc power analysis confirmed that this sample size provided sufficient power to detect medium-to-large effect sizes with 95% confidence for primary outcomes.

Statistical methods: Data were analyzed using Stata/SE 18.0 (StataCorp, College Station, TX, USA). Descriptive statistics, including frequencies and percentages, were calculated for demographic characteristics. The internal consistency of the survey items was assessed using Cronbach's α. Mean scores and standard deviations were computed to assess overall patterns in student concerns.

To examine differences in concern levels by academic year and gender, independent-samples t-tests and one-way analysis of variance (ANOVA) were performed. Post hoc analyses, including Tukey's HSD, were used to identify specific group differences where significant main effects were found. Correlations between different types of concerns were also analyzed to explore any underlying patterns. The preferences for counseling services were analyzed descriptively using frequency distributions. All results were reported with 95% confidence intervals, and statistical significance was set at $p < 0.05$.

RESULTS

Table 2 summarizes the average level of concern reported by students on various topics. Career and specialty selection posed the most significant concern (M = 6.77, SD = 2.02), followed closely by academic performance (M = 6.21, SD = 2.20). Lower levels of concern were observed for family-related issues (M = 1.64, SD = 1.98) and financial problems (M = 2.87, SD = 2.64). Mid-level concerns included academic motivation (M = 4.61, SD = 2.67), learning strategies (M = 5.13, SD = 2.83), and personal growth (M = 5.44, SD = 2.74).

The results indicate that medical students frequently experience concerns related to academic and career aspects, with comparatively lower concerns about family and finances.

As shown in Table 3, some statistically significant gender differences were found. Female students reported a significantly higher level of concern regarding learning strategies (M = 6.18, SD = 2.70) than male students (M = 4.61, SD = 2.75), $t = –3.136$ $p < 0.01$. Similarly, females showed more concern about emotional/personality issues (M = 4.53, SD = 3.01) than males (M = 3.47, SD = 2.59), $t = –2.133$, $p < 0.05$. This suggests that female students may experience higher levels of concern regarding learning and emotional factors.

The correlation analysis between various concerns among medical students is presented in Table 4. The correlation analysis reveals that concerns about academic performance are highly correlated with career and major selection concerns ($r = 0.63$, $p < .001$), as well as with learning motivation ($r = 0.56$, $p < .001$) and learning strategies ($r = 0.57$, $p < .001$). This indicates the

Table 2. Concerns experienced by medical students

Concern Topic	Mean±SD
1. Concern about future career and specialty choice	6.77 ± 2.02
2. Concern about academic performance	6.21 ± 2.20
3. Concern about academic motivation (drive, passion, willingness to study)	4.61 ± 2.67
4. Concern about learning methods/strategies	5.13 ± 2.83
5. Concern about personal growth (communication skills, self-awareness)	5.44 ± 2.74
6. Concern about health issues	2.97 ± 2.48
7. Concern about emotional and personality issues (depression, anxiety)	3.82 ± 2.77
8. Concern about peer relationships	4.48 ± 2.83
9. Concern about romantic relationships	3.68 ± 2.80
10. Concern about family issues	1.64 ± 1.98
11. Concern about financial problems	2.87 ± 2.64

Values are presented as mean±standard deviation

Table 3. Gender differences in concerns

Concern Topic	Male	Female	t-test	p-value
Career choice	6.80 ± 2.03	6.71 ± 2.02	0.239	0.811
Academic performance	6.06 ± 2.11	6.53 ± 2.38	–1.189	0.236
Academic motivation	4.36 ± 2.53	5.13 ± 2.89	–1.606	0.111
Learning strategies	4.61 ± 2.75	6.18 ± 2.70	–3.136	0.002
Personal growth	5.16 ± 2.71	6.00 ± 2.76	–1.697	0.092
Health	2.90 ± 2.50	3.11 ± 2.44	–0.466	0.642
Emotional/personality issues	3.47 ± 2.59	4.53 ± 3.01	–2.133	0.035
Peer relationships	4.44 ± 2.80	4.56 ± 2.93	–0.214	0.831
Romantic relationships	3.72 ± 2.84	3.60 ± 2.76	0.238	0.812
Family issues	1.44 ± 1.79	2.04 ± 2.30	–1.668	0.098
Financial problems	2.58 ± 2.61	3.44 ± 2.63	–1.814	0.072

Values are presented as mean±standard deviation.

significance of academic performance concerns in students' academic and career pathways. Learning motivation showed a strong correlation with learning strategies ($r = 0.67$, $p < .001$), highlighting the close relationship between these two aspects. Self-growth concerns were significantly associated with learning strategies ($r = 0.55$, $p < .001$) and emotional/personality issues ($r = 0.41$, $p < .001$), demonstrating the connection between personal development and academic and emotional aspects.

Emotional and personality concerns were most strongly correlated with peer relations ($r = 0.64$, $p < .001$) and showed high correlations with romantic relationships ($r = 0.49$, $p < .001$) and health ($r = 0.51$, $p < .001$). Additionally, family issues were closely correlated with economic issues ($r = 0.58$, $p < .001$), indicating the potential impact of family financial challenges on students.

Table 5 presents the analysis of differences in concerns by academic year, with significant variances observed in some areas. Concerns about career and major selection varied significantly by academic year ($F = 2.86$, $p < .05$), with fourth-year ($M = 7.93$, $SD = 1.38$) and sixth-year ($M = 7.55$, $SD = 1.68$) students showing relatively higher concern levels. Additionally, significant differences were noted for learning motivation ($F = 3.62$, $p < .01$), with third-year ($M = 5.90$, $SD = 2.92$) and fourth-year ($M = 6.00$, $SD = 2.99$) students reporting the highest levels of concern. Concerns about emotions and personality were highest among first-year students ($M = 4.87$, $SD = 2.63$), with significant differences by academic year ($F = 3.35$, $p < .01$). Concerns about peer relationships also varied significantly, with first-year students reporting higher levels of concern ($M = 5.65$, $SD = 2.71$), which decreased in later years ($F = 4.79$, $p < .001$).

Table 4. Correlations between various concerns

Concern Topic	Career Choice	Academic Performance	Academic Motivation	Learning Strategy	Personal Growth	Health	Emotional/ Personality Issues	Peer Relationship	Romantic Relationship	Family Issue
Academic Performance	0.63[a)]									
Academic Motivation	0.35 [a)]	0.56 [a)]								
Learning Strategy	0.35 [a)]	0.57 [a)]	0.67 [a)]							
Personal Growth	0.29 [a)]	0.32 [a)]	0.50 [a)]	0.55 [a)]						
Health	0.03	0.23 [b)]	0.34 [a)]	0.24 [b)]	0.20 [c)]					
Emotional/ Personality Issues	0.05	0.20 [c)]	0.44 [a)]	0.26 [b)]	0.41 [a)]	0.51 [a)]				
Peer Relationship	0.17 [c)]	0.30 [a)]	0.33 [a)]	0.25 [b)]	0.39 [a)]	0.41 [a)]	0.64 [a)]			
Romantic Relationship	0.09	0.19 [c)]	0.31 [a)]	0.28 [a)]	0.25 [b)]	0.41 [a)]	0.49 [a)]	0.57 [a)]		
Family Issue	0.07	0.16	0.27 [b)]	0.23 [b)]	0.24 [b)]	0.33 [a)]	0.32 [a)]	0.29 [a)]	0.40 [a)]	
Financial Problem	0.05	0.26 [b)]	0.28 [b)]	0.26 [b)]	0.24 [b)]	0.53 [a)]	0.36 [a)]	0.34 [a)]	0.40 [a)]	0.58 [a)]

a) Correlation was significant at the 0.001 level./ b) Correlation was significant at the 0.01 level. / c) Correlation was significant at the 0.05 level.

Table 5. Differences in concerns by academic year

Category	1st Year	2nd Year	3rd Year	4th Year	5th Year	6th Year	F	p-value
Career/Major Choice	6.14±2.25	6.20±2.50	6.63±1.64	7.93±1.38	6.96±1.64	7.55±1.68	2.86	0.018
Academic Performance	5.73±2.52	6.05±2.31	6.32±2.16	7.29±2.05	6.09±2.07	6.55±1.68	1.17	0.326
Learning Motivation	4.05±2.65	5.35±1.76	5.90±2.92	6.00±2.99	3.44±2.37	4.14±2.51	3.62	0.004
Learning Strategy	4.05±2.98	5.65±2.39	6.63±2.06	5.64±3.46	4.74±2.67	5.27±2.71	2.62	0.027
Self-Growth	5.03±2.74	6.65±2.13	6.74±2.18	5.86±2.51	4.52±2.74	4.59±3.19	3.00	0.013
Health	3.14±2.44	3.25±2.24	3.58±2.55	3.21±3.04	2.13±2.55	2.64±2.22	0.95	0.453
Emotions/Personality	4.87±2.63	4.20±2.46	4.21±2.97	3.86±3.06	2.22±2.59	3.05±2.40	3.35	0.007
Peer Relations	5.65±2.71	5.30±2.72	4.42±2.71	5.00±3.23	2.70±2.46	3.36±2.19	4.79	0.001
Romantic Relationships	4.62±2.67	3.85±2.37	3.42±3.01	4.57±3.74	2.57±2.43	2.77±2.43	2.48	0.035
Family Issues	1.35±1.32	2.40±2.37	1.21±1.84	3.21±3.14	1.52±1.70	0.96±1.40	3.53	0.005
Economic Issues	3.11±2.79	3.90±2.49	2.37±2.61	4.07±3.20	2.13±2.05	1.96±2.28	2.40	0.041

Values are presented as mean±standard deviation.

The preferred counseling operation methods among medical school students are presented in Table 6. An analysis of students' preferences regarding counseling frequency, timing, duration, method, and counselor type revealed the core characteristics of the desired counseling services.

The majority of students preferred counseling sessions twice a year, with 46.67% (63 students) indicating this preference. A significant proportion, 32.59% (44 students), preferred annual counseling sessions. A smaller number preferred counseling three times (5.19%, 7 students), four times (10.37%, 14 students), or five times or more per year (5.19%, 7 students). This suggests a general preference for less frequent counseling, with 1–2 sessions per year perceived as adequate by most students.

Regarding preferred counseling timing, the most favored period was March to April (26.67%, 36 students), followed by May (20.74%, 28 students) and September to October (18.52%, 25 students). A minority of students preferred counseling during the summer vacation months of July to August (11.85%, 16 students) and June (10.37%, 14 students). Conversely, November (2.96%, 4 students) and December (3.70%, 5 students) were the least preferred months, indicating a higher preference for counseling during the academic semester.

In terms of counseling duration, 60.74% (82 students) preferred sessions lasting between 30 minutes and one hour, while 31.11% (42 students) preferred sessions under 30 minutes. Only 8.15% (11 students) favored sessions exceeding one hour, reflecting a preference for relatively short, focused counseling sessions.

Face-to-face counseling was overwhelmingly preferred, with 85.93% (116 students) favoring this method. Online counseling was selected by 8.15% (11 students), and email or other remote methods were preferred by 5.93% (8 students). This finding underscores students' greater trust and perceived effectiveness in in-person counseling.

The majority of students (54.81%, 74 students) preferred professional counselors, while 33.33% (45 students) favored clinical professors as counselors. Fewer students preferred basic medical professors or learning support specialists, with each group comprising 5.93% (8 students) of the total. This indicates a general preference for counseling with specialized expertise. This data highlights students' overall preferences for less frequent, semester-aligned, shorter, face-to-face counseling sessions, conducted by professional counselors or clinical professors.

Table 6. Preferred counseling operation methods among medical students

Category		Frequency	Percentage
Counseling Frequency	Once per year	44	32.59
	Twice per year	63	46.67
	Three times per year	7	5.19
	Four times per year	14	10.37
	Five times or more	7	5.19
Counseling Timing	January-February	7	5.19
	March-April	36	26.67
	May	28	20.74
	June	14	10.37
	July-August	16	11.85
	September-October	25	18.52
	November	4	2.96
	December	5	3.70
Counseling Duration	Less than 30 minutes	42	31.11
	30 minutes to less than 1 hour	82	60.74
	1 hour or more	11	8.15
Counseling Method	Face-to-Face	116	85.93
	Online	11	8.15
	Email or other remote methods	8	5.93
Preferred Counselor	Professional counselor	74	54.81
	Clinical professor	45	33.33
	Basic medical professor	8	5.93
	Learning support specialist	8	5.93
Total		135	100.0

DISCUSSION

The primary aim of this study was to investigate the types and extent of concerns faced by medical students, as well as their preferred counseling and support mechanisms, to inform academic, psychological, and career support structures in medical education. Based on a survey of students from first to sixth year at one medical college, the study identified significant concerns in career choice, academic performance, learning strategies, emotional well-being, and health. Notably, students expressed greater anxiety around career choice and academic performance, concerns closely linked to the distinctive characteristics and demands of medical education.

These findings underscore the need for tailored support systems to address the specific academic and career pressures medical students face. While academic performance and career decisions are prevalent issues, they are compounded by intense study demands and standardized evaluation systems characteristic of medical education. Gender differences were also evident, with female students showing higher levels of emotional concerns and distress in learning strategy management. Such differences suggest that support mechanisms should consider individual attributes and preferences, offering customized assistance that addresses both academic and emotional aspects.

The current results align with previous findings indicating that academic stressors, especially in medical programs, can lead to significant psychological distress [6]. Consistent with studies by Hill, Goicochea, and Merlo [8], female students reported greater emotional concerns and a need for support in interpersonal relationships, highlighting the importance of providing gender-responsive counseling. Additionally, this study corroborates Kusner et al. [10] findings that academic pressures are frequently intertwined with emotional well-being and interpersonal challenges, emphasizing the value of both academic support and personal counseling.

This study is limited by its single-institution sample, which may restrict the generalizability of results to other medical schools. The reliance on self-reported survey data could introduce subjectivity and potential reporting bias, which might affect the accuracy of identified needs and preferences. Additionally, the scope was limited to cross-sectional analysis, and longitudinal data would be beneficial to understand the evolving nature of student concerns over time.

The findings offer relevant insights for medical schools worldwide, especially in institutions with similar rigorous academic environments. However, differences in counseling culture and educational practices across regions suggest that results should be adapted thoughtfully to local contexts. Identifying counseling preferences and gender-based support needs provides a valuable foundation for creating student-centered support systems adaptable to various educational settings.

Future research should explore similar concerns across a larger, more diverse sample of medical schools to increase generalizability. Qualitative studies or in-depth interviews would enhance the understanding of specific challenges students face and offer more nuanced insights. Moreover, evaluating the long-term effects of targeted counseling and academic support programs on students' academic performance and psychological well-being could inform best practices in student support.

CONCLUSION

This study reveals critical academic, emotional, and career-related challenges faced by medical students, highlighting the importance of a support framework

tailored to students' academic and personal needs. Gender-specific and year-specific counseling programs could improve students' psychological well-being and overall academic performance. Emphasizing face-to-face counseling and engagement with professional counselors and mentors may foster a supportive academic environment that positively impacts students' long-term educational outcomes. Such structured, responsive support is essential to fostering both academic success and mental health stability among medical students.

ETHICS STATEMENT

This study was approved by the Institutional Review Board (IRB) of Sungkyunkwan University of Korea (IRB approval no., SKKU 2024-02-038). A waiver of informed consent was also included in the IRB approval.

CONFLICT OF INTEREST

No potential conflict of interest relevant to this article was reported.

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AUTHORS' CONTRIBUTIONS

KYH and MRS: Conceptualization, Data curation, Writing – review & editing
MRS: Methodology/formal analysis/validation, Writing – original draft
KYH: Project administration

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