

Research Paper

Integrating AI-Driven Counselling to Address Habitual Failures in Medical Education

*Zeelaf Shahid

Medical Education Department-DED, Ziauddin University, Karachi, Pakistan

Soobia Saeed

Department of Computer Science, Taylor's University, Malaysia

Rubina Ghani

Department of Biochemistry, Jinnah Medical and Dental College (JMDC), Pakistan

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Abstract:

Background: Given recent developments such as the recurrent academic failure among medical students, higher educational institutions are addressing ways to keep these students continuously motivated, as well as boost their emotional resilience and cognitive engagement. This study proposes the Counselling Cell Model through which habitual failures are detected, predicted, and remediated by data-based interventions. Artificial intelligence (AI) is utilized in this model to combine demographic, academic, and psychometric data to categorise students' motivation, stress levels, and performance patterns. Using predictive analytics with CGPA, engagement and psychological parameters, students are divided into low-, moderate-, and high-risk groups from the very beginning.

Methods: In a cross-sectional study conducted on medical students, the researchers utilised structured questionnaires to collect data and conducted AI-assisted data analysis.

Results: The results show a huge drop in motivation amongst medical students from first to final year, leading to chronic burnout with many opting to quitting their studies. The AI-enabled analysis can detect early at-risk students and customise strategies such as counselling to enhance and support their retention, mental well-being, and academic performances.

Conclusion: The adoption of AI in the field of counselling offers a revolutionary potential for medical education and academics. With the help of AI-guided counselling, appropriate interventions can be arranged for students who struggle academically, mould their unrealised potential, and build emotionally healthy future physicians.

Keywords: Medical students, academic failure, predictive analytics, integrating AI

*Correspondence: Zeelaf Shahid, Medical Education Department-DED, Ziauddin University, Karachi, Pakistan. Email: drzeelaf@yahoo.com

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Introduction

Medical education worldwide is considered one of the most arduous academic training, requiring cognitive, emotional, and psychological endurance of an exceptional nature. Annually, thousands of students are admitted to medical schools with varied motivations, be it personal interest in healthcare, altruism, parental influence, societal expectations, or financial incentives. Given that academic aptitude is an essential selection criterion for this course, poorly motivated students admitted on the basis of grades alone are statistically more prone to disengagement, burnout, or academic failure than those with intrinsic motivation and commitment to their chosen profession (Mujahid et al., 2023; Qureshi et al., 2023; Shahid et al., 2022). As such, the primary reason attributed for the ongoing academic failure among medical students is intense psychological and motivational issues which extend beyond educational capacity.

Medical students suffer from chronic stress as a result of heavy medical coursework demand leading to significant learning difficulties and work-related dissatisfaction. Current standard counselling methodologies are only partially effective as they lack the essential assessments needed to comprehend how emotional well-being and academic performance interact with each other (Hartanti et al., 2025; Lee, 2025). Nevertheless, in recent times, AI has advanced the current counselling procedures through effective technological solutions. For instance, AI has the ability to analyse extensive data sets of student demographic information together with academic performance patterns, psychological assessments and behavioral markers to identify academic risks. Further, machine learning can be applied to create algorithms which can detect initial signs of disengagement or emotional distress before students hit their lowest point (McMahon & Abkhezr, 2024; Roy, 2020).

Higher educational institutions can take a proactive approach to provide personalized student support by integrating AI in their counselling systems. AI in counselling uses predictive modelling, sentiment analysis and intelligent chatbot systems to track students' academic performance while detecting early warning indicators and providing the necessary support. The integration of AI provides better academic support by creating a culture that promotes mental health and long-term professional development through wellness-oriented training programs (Rashid et al., 2019; Zuo et al., 2026). The present research is set against this

background and aims to unravel the causes for the regular failures of medical students and proposes an AI-based tool to address these causes. The Counselling Cell Model is a tool where AI combines psychological insights with hard-data precision to offer a scalable, evidence-based solution for the retention, motivation, and overall well-being of medical students.

Literature Review

Research shows that academic failure amongst medical students is due to their overburdened psychological state caused by their drive to succeed and their stressful environment. They experience decreasing motivation and burnout throughout their educational course due to the taxing coursework demand to the point of exhausting their mental health. This suggests that habitual academic failure is a multi-layered and interconnected issue. Recent studies have shown that artificial intelligence (AI) can be utilised for counselling systems to address this problem (Corey & Chen, 2019; Kiran et al., 2021; Wong et al., 2022).

Medical students show less motivation and higher burnout (Devi et al., 2025) as well as increased levels of stress and anxiety and depression (El-Gabry et al., 2022). Similarly, Zhou and Shirazi (2025) found that financial and prestige-based external incentives fail to maintain long-term engagement resulting in students becoming less interested and displaying poor academic performance. Other studies demonstrate that students need to develop emotional resilience and self-efficacy to achieve academic success because students with low self-efficacy will face repeated failures and withdraw from their studies (Coffey et al., 2025; Qadeer et al., 2025).

Traditional counselling methods are shunned by medical education programs because these methods only address the symptoms and present poor outcomes. Past research has shown that conventional counselling methods are unable to detect or monitor changes in student emotional well-being throughout an academic program. Further, students avoid counselling because they fear them, face difficulties in accessing them, or perceive that it fails to meet their specific needs. According to Kirtchuk et al. (2022), standard counselling models fail to meet the needs of students from different cultural backgrounds because they treat all students as identical. Thus, the need for data-based personalized counselling systems to overcome this existing limitation has grown (Langness et al., 2022).

In recent times, educational counselling systems have increasingly started to adopt AI technologies such as predictive modelling, sentiment analysis and chatbot-based virtual support systems. Artificial intelligence systems can process extensive student records which include academic results, behavior data and psychological assessment results. Lee (2025) found that generative AI creates

better studying experiences as it helps teachers find students who have become inattentive or less engaged during their classes. Further, academic failure prediction models developed using machine learning can be highly accurate by applying logistic regression, ensemble learning and natural language processing methods to extract sentiment information from text data (Rao et al., 2025; Sattar & Yusoff, 2025).

AI-based counselling systems incorporate a risk assessment method that sorts students into three different risk categories based on their academic performance and psychological assessment results. This approach is effective as it helps universities or schools detect early at-risk students, resulting in better academic results and lower dropout rates. Academic performance dashboards together with emotional development dashboards provide real-time monitoring for educational institutions to deliver precise and effective student support and intervention measures. Educational institutions can also use NLP(natural language processing)-based sentiment analysis to identify signs of emotional distress in student feedback that will allow them to take preventive actions (Ago et al., 2025; Zvrko et al., 2024). Personalized counselling models is one the most significant advancement in research today and the proposed Counselling Cell Model in this paper emphasizes individualized intervention strategies tailored to student needs.

Contemporary studies highlight that AI can personalize counselling by analyzing personality traits, motivational drivers, and academic profiles, and in turn, recommend appropriate career pathways and coping strategies. According to Öncü (2025), AI-based chatbots function as essential resources which provide round-the-clock assistance while making counselling services easier for people to access. Current scientific studies demonstrate that academic performance and mental health are interconnected fields. Thus, AI can be utilised to connect these two domains through its continuous feedback mechanism and emotional state monitoring system. Studies have shown that AI-based counselling approaches lead to better mental health outcomes while helping students maintain their school attendance because these systems enable continuous student monitoring and early problem identification before it escalates further (Ahmady et al., 2019; González-Amarante et al., 2025).

Nevertheless, AI-based counselling systems still face numerous barriers and have a long journey ahead. Firstly, AI counselling systems currently exist only as theoretical frameworks which have not been fully tested in the real world. Such systems also face ethical issues such as data protection violations and algorithmic discrimination and thus, the need for system transparency. Further, researchers must conduct longitudinal studies to validate the systems they are building in order to offer explainable artificial intelligence (XAI) that can establish a trustworthy operation. Some studies have worked on developing hybrid systems

which combine human abilities and AI's technical capabilities while using multiple data types containing information about people and their brain functions (Gupta et al., 2020; Shahid et al., 2022).

Medical educational institutions are slowly moving away from traditional counselling methods towards AI-based systems which use data to create personalized counselling. Academic failure continues to be increasingly recognised as a complex problem that involve psychological factors, motivational issues and systemic problems. Thus, the Counselling Cell Model which functions as an AI counselling system provides educational institutions a valuable solution to help them identify students at risk and create customized intervention plans that can help students succeed in their academic journey. However, the system needs more real-world testing with scientific methodology and stringent ethical practices before its full potential can be realized.

Methodology

Data Collection

The present cross-sectional study aims to identify the academic issues, motivation, and counselling needs of medical students at Jinnah Medical and Dental College, Pakistan. The researchers used stratified random sampling to select 300 students from Batches 23 to 28 based on their academic year distribution. A self-administered structured questionnaire was developed to collect data on four main aspects: **demographics** (age, gender, academic year, and cumulative GPA), **career preferences** (intended specialties and intended career path such as clinical practice, research, or public health), **counselling perceptions** (awareness, benefits, and experiences with current counselling services), and **future goals** (post-graduation goals and locations they want to work at, and whether they intend to specialize further). The questionnaire was sent to the students via electronic means or administered directly depending on their availability. The final sample was confined to registered medical students who chose to participate but excluded those on leave, and those who provided incomplete or inconsistent answers. The quantitative data analysis examined how academic counselling and motivation were perceived by students of different demographics.

Data Analysis

The researchers executed a comprehensive evaluation of the collected data set to assess its precision and completeness. The analysis process eliminated all responses which contained either partial data or contradicting information. The data were then coded and transferred to SPSS version 23 for statistical tests. The researchers divided the variables into two groups: demographic and academic information. They also

identified students who scored below 50% in professional examinations as “cases” and students who scored above 50% as “controls”. Descriptive statistics was used to summarize demographic data while inferential statistics determined how academic performance affected motivational factors. A pilot test was conducted with 15 students to improve the final questionnaire through reliability testing and internal consistency checks before the actual deployment.

Study Design

Employing a cross-sectional research design, the study examined factors that cause medical students to fail in their academics. Primary data were collected using structured quantitative surveys. The study included a minor qualitative element, whereby informal interviews were conducted to develop survey items for the questionnaire to ensure proper contextual use. These surveys were only utilized as an initial step in the process of creation of the matching tool, and no formal methods of qualitative analysis were applied to the interview content. Therefore, the data of the surveys were not disseminated or analysed as qualitative results.

The researchers set particular limits for artificial intelligence (AI) which were applied as boundaries in the proposed model. The researchers used AI tools to organise data and then executed initial clustering procedures to develop the fundamental components of their proposed model. The research team, however, did not use AI to create predictive models or execute automated decision-making processes or analyze participant-level data. Instead, SPSS (version 23) was used to perform all the statistical analyses which included both descriptive and inferential statistical tests. In this regard, the study clearly distinguishes between:

- Empirical components: survey data collection, limited exploratory interviews, and statistical analysis
- Conceptual components: development of the AI-assisted Counselling Cell Model, which is proposed as a theoretical framework based on observed patterns in the data.

Findings

It should be noted that the AI-assisted Counselling Cell Model exists only as a theoretical design because the researchers did not test or execute it throughout the study. Instead, a theoretical framework was developed using empirical data collected through the questionnaire and the study’s exploratory findings. The researchers used AI for the following three purposes which did not include operational functions: data organization, preprocessing and identification of basic

patterns with clustering trends and conceptual framework structuring. In other words, the researchers used AI to provide counselling support, but they did not use it for delivering counselling interventions, real-time decision-making, or conducting predictive modeling or risk stratification based on participant-level data. Thus, the counselling model described in this paper exists as a non-operational system because it lacks any aspect of real-time AI-driven counselling or chatbot interaction or automated intervention. The counselling model put forth in this paper is conceptual and does not utilize real-time counselling, AI, Chatbot interaction, or automated interventions. Conversations of predictive ability, personalization, or intelligent intervention were theorized based on the existing literature. The features were not implemented or empirically verified using the dataset.

Following ethical approval, the cross-sectional, mixed-method study was conducted from January 2019 to October 2024 at a private medical institution in Karachi, Pakistan. First, semi-structured interviews were conducted with failing students to understand the underlying issues related to studying medicine such as regret and motivation. To uphold confidentiality and encourage honesty, responses were anonymized. Two validated questionnaires were modified from previous studies and pilot-tested for local suitability, with one set containing eight binary-choice questions focusing on career motivations, while the other examined reasons that lead to repeated academic failures. Data were collected from consenting students who matched the inclusion criteria and were selected using purposive sampling.

The collected quantitative data were analyzed using Chi-Square tests to find differences between the passing and failing groups, setting the significance value at $p \leq 0.05$. Odd ratios were calculated to measure the relative risk of academic underperformance. Qualitative data from counselling sessions helped to add context to the quantitative results. The researchers conducted one-to-one interviews, lasting 30–45 minutes each, with failing students to examine their intrinsic and extrinsic motivations for pursuing medicine. Where parental pressure or emotionality came into play, these individuals were then counselled on an individual basis, including guidance on alternate medical career paths where applicable.

Based on the results, the theoretical framework for an AI-assisted counselling model was developed for data analysis, emotion assessment, failure prediction, and individualized intervention in the form of predictive analytics and chatbot-based support. The integration of AI into counselling is expected to help struggling medical students build academic resilience and psychological well-being. The study flowchart is as shown in Figure 1.

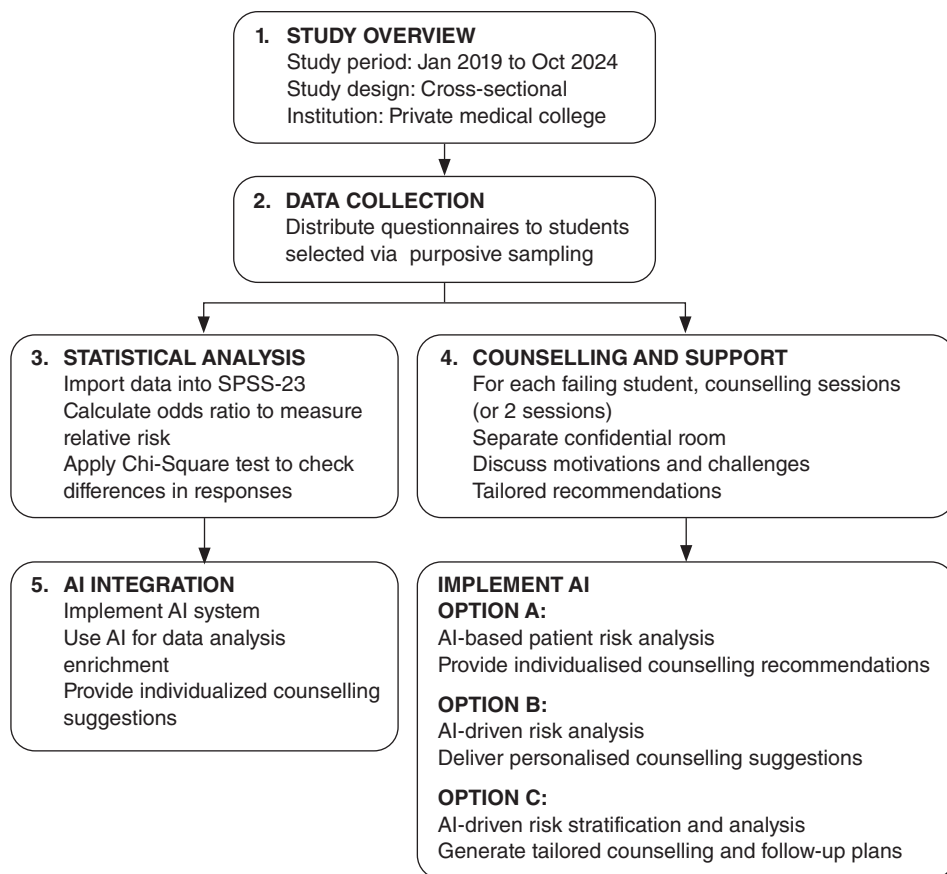


Figure 1. Flowchart of study

Additionally, it should be noted that participant-level data were not analysed using AI tools. AI usage was limited to sorting out the raw data, creating rudimentary clustering insights, and forming the theoretical framework of the counselling model. The dataset was not used for predictive modelling, automated decision-making, or algorithm-driven analysis. In general, the flowchart in Figure 1 makes a clear separation between the empirical elements – surveys, brief interviews, and statistical testing in SPSS—and the conceptual elements, which are represented by the theoretical AI-based Counselling Cell Model.

Data Analysis

The data collected from 300 medical students were analysed using SPSS version 23. The researchers used Chi-Square test to examine the relationship between

professional examination takers and non-takers with their motivational elements and academic performance. The researchers calculated the odds ratio (OR) to determine the probability of academic underperformance, using $p \leq 0.05$ as the testing standard. The researchers also looked at the link between motivation (parental pressure and self-interest) on both academic achievement and continuous academic failure. For descriptive statistics, the response for each questionnaire item was evaluated using a 5-point Likert scale to determine the mean, standard deviation and 95% confidence interval.

Table 1. Descriptive statistics and overall interpretation

Theme	Questions	Mean Range	Standard Deviation Range	Statistical Significance (Chi-Square Range)	Overall Interpretation
Motivational Commitment and Career Choice	Q1–Q4	2.08 – 2.70	0.84 – 1.17	39.15 – 43.51	The student responses demonstrate a moderate level of agreement which suggests their initial motivation for medical studies varied between the different academic years.
Training Experience and Academic Satisfaction	Q5–Q6	2.89 – 3.77	1.44 – 1.85	34.97 – 35.72	Q5 received the highest average score of 3.77 which reflects participants' strong satisfaction with their training. The standard deviation suggests that people have different life experiences and expectations.
Stress, Anxiety, and Burnout Indicators	Q8–Q10	1.96 – 2.40	0.94 – 1.81	20.78 – 41.71	The lower average scores indicates that participants had multiple points of disagreement with each other. The different scores for these items suggest that students experience various levels of emotional distress and possess different levels of capability for coping
Counselling Awareness and Perception	Q12–Q14	2.49 – 2.61	0.79 – 1.17	38.87 – 55.69	Results show moderate agreement and consistency, which imply that despite the participants' awareness of available counselling resources, which they knew were helpful, there was a lack of engagement with these resources.

Table 1. (con’t)

Theme	Questions	Mean Range	Standard Deviation Range	Statistical Significance (Chi-Square Range)	Overall Interpretation
Self-Efficacy and Learning Attitudes	Q15–Q17	2.36 – 2.83	0.90 – 1.06	39.23 – 55.37	Participants demonstrated an average attitude which reflects their confidence in their learning abilities. The Chi-Square values increased when students from different groups displayed different test results.

The results for Q5 and Q15 are presented in Table 1. Q5 examined students’ perceptions of their training quality and effectiveness, while Q15 concerned their perception of being able to handle academic tasks and learning demands. The above clarifications help to clarify the meaning of the results for readers so that they would not have to refer back to the original questionnaire.

The question Q5 (Mean = 3.77, SD = 1.850) was the most positively agreed indicating an strong tendency towards one specific aspect of the education program. Conversely, Q15’s response (Mean = 1.07, SD = 0.391) represents an almost unanimous strong disagreement or strong dissatisfaction. A high standard deviation indicates a difference in opinion among the different items, especially in the case of Q5 which showed a divergence of opinions while questions that garnered a low standard deviation reflect a shared opinion among the participants. The majority of variables with a significant Chi-Square value strongly indicate meaningful differences between the failing and passing students. These differences suggest different motivators and attitude mechanisms. Thus, the distinct patterns reflected in student perception and motivation clearly advocate for data-driven and targeted counselling interventions to improve academic performance, sustain motivation, and bolster emotional strength in the pursuit of a medical education.

Role of AI in Counselling

AI offers many potential capabilities in career counselling for medical students, in particular through data-driven, customised, and future-based student assistance. When AI is incorporated into counselling systems, it can monitor areas where students fail, evaluate their interests, and propose options. Such systems in medical colleges can make a real change: the system predicts and identifies students who are facing difficulties, and gives them support; at the same time, it improves the intervention measures based on the feedback that comes in, allowing it cater to the needs of

the student as necessary. This form of comprehensive and effective counselling not only helps with grades, but also supports good mental health, increases motivation and will eventually lead to students being satisfied with the career they have chosen, and thus, create strong and competent doctors.

Table 2. Role of AI in career counselling

AI Function	Application in Career Counselling	Outcome/Impact
Analysis of Data and Patterns	Analyses academic records, survey responses, and behavioural data to locate risk factors or motivational trends.	Warns about signs of burnout or disengagement
Personalized Counselling Plans	AI algorithms develop interventions according to personality traits, interests, and academic profiles.	Offers personalized advice and resource allocation
Sentiment & Emotion Analysis (NLP)	A process that analyses written feedback or chat transcripts to capture emotional tone and levels of stress.	Supports early intervention in psychological care
Predictive Modelling	Predicts academic failures or drop-out probabilities using historical trends	Enables proactive counselling before any further decline
AI-powered chatbots	An on-demand 24X7 support system for other common academic or emotional issues.	These chatbots improve accessibility and offer help immediately.
Continuous Feedback Loops	Tracks academic as well as emotional progress in a dynamic manner through dashboards	Real-time changes in the counselling procedures can be incorporated.
Motivation & Career Alignment Analysis	Analyses reasons for choosing medicine like parental pressure versus intrinsic interest	Directs students towards a career that is aligned with their interests.
Skill Development Optimization	Recommends training programs which focus on communication, time management and resilience building skills	Helps people develop their entire being through personal and work-related growth.
Resource Allocation	Focuses on urgent care for patients who face dangerous health situations	The system optimises counselling resources for better operational efficiency
Longitudinal Tracking	Tracks students through multiple years to evaluate the success of educational programs	Help organizations protect their data

Counselling Cell Model to Address the Habitual Failures of Medical Students

The proposed Counselling Cell Model can be a transformative academic solution which uses AI to assist medical students with ongoing academic difficulties. The data collected by the model contains extensive information which includes personal information, educational records, counselling history and reasons for studying including family expectations and personal interest as well as psychological data including stress and anxiety evaluation. The data is then fed into the AI analytics engine which uses its systems to find patterns on how students behave, what drives them and the psychological conditions that affect their academic results. The model then uses predictive modelling to create three risk categories for students based on their GPA (grade point average) patterns, class attendance, counselling participation and attendance records.

Further, AI diversion algorithms can help identify academic distress signs which allow educational institutions to use a three-tier approach for early intervention purposes. Students who experience severe distress receive individual counselling to help them develop cognitive skills, regulate their emotions and manage their stress levels. Students with moderate distress levels participate in workshops which will teach time management skills, motivation techniques and academic resilience. Students who present low academic risks are supported through preventive counselling, peer mentoring and access to online academic resources.

The AI chatbots deliver immediate counselling at a basic level which helps students find the right resources and this also creates a feedback system that tracks their academic and emotional development in real-time monitoring. The system conducts sentiment analysis through longitudinal tracking to assess counselling effectiveness while formulating better intervention methods. Overall, this model aims to decrease medical student dropouts while boosting their academic achievement and supporting their mental health through motivational alignment.

This section discussed how the study's empirical findings helped design the Counselling Cell Model's theoretical framework by directly associating the patterns observed in the data with particular components of the framework. The system establishes risk tiers using student motivation which decreases when students advance to their next academic year, while burnout signs serve as a basis for integrating emotional-monitoring features. The marked difference regarding awareness on counselling among student groups serves as the justification for integrated chatbot-based or on-demand support mechanisms. Moreover, the differences between students who do academically well and those who do poorly highlight possible predictive variables like CGPA trends, perceived self-efficacy, and the impact of external expectations. It should be noted that the model is put forward as a conceptual framework based on thematic findings, rather than a system that has been trained or validated on the dataset.

Scope of Model Within the Current Study

The thematic framework of the AI-assisted Counselling Cell Model, which is the study's main contribution, is conceptual and theoretical in nature; it is not an operationally deployed system. The model applied AI-assisted data processing features such as statistical analyses, identification of patterns across motivational, psychological, and academic variables, and the organization of clusters—but did not involve AI-driven counselling workflow, chatbot support, predictive risk-stratification engine, and automated emotional monitoring; that is, these were not utilised in a real-time educational setting during data collection.

The present research is thus limited to the following three major components.

Empirical Evidence Generation

The main data for this study were obtained from structured questionnaires, semi-structured interviews, and the application of traditional statistical tests using SPSS. These methods revealed students' motivations, stress indicators, self-efficacy, and counselling perceptions. AI support was confined to data handling, pattern recognition, and interpretation, and not active counselling or prediction.

Model Conceptualization Based on Findings

The Counselling Cell Model was developed to help identify the main factors that cause academic failures, using data collected from questionnaires. The model connects the identified themes of burnout, loss of interest, parental pressure, emotional distress, and inconsistent counselling engagement with predictive analytics and sentiment analysis—two of the main AI capabilities today. The model exists as a theoretical framework as it was designed using actual field research, instead of being tested on students who participated in the study.

Data Analysis

This paper is an addition to the discussion surrounding AI adoption because it proposes possible ways of implementing future institutional solutions based on the findings of this research. The outcomes provide a clear distinction between the empirical data that support evidence-based practices and theoretical AI applications that should undergo further verification prior to the implementation.

Future Implementation Roadmap

The model serves as a core tool which can support medical school operations because it uses real-time academic data, emotional assessments and counselling information together with psychological test results to identify students who

need help. Nevertheless, the system requires separate testing and validation as well as institutional deployment of its AI chatbots and risk-stratification tiers and continuous feedback loops before they can be incorporated into the overall system. Future research could use this model to study its accuracy, arising ethical issues, difficulties in implementation, and its impact on student retention and well-being.

Further, since the AI-supported Counselling Cell Model functions as a framework that is based on the observed needs and behavioural patterns of medical students, it needs to be integrated with existing counselling systems, which can be a future research topic.

Discussion

Data collected from different MBBS batches showed a variety of trends in responses across the questionnaire items. The strongest agreement and the most positive perception regarding some aspects of the training program were expressed for Question 5, which received the highest score (3.77 ± 1.85). On the contrary, Question 30 received the lowest mean score (1.07 ± 0.39), indicating total dissatisfaction. The large difference in the standard deviations reflect the varying degrees of agreement among the participants and the larger the deviation, the more diverse the opinions. The 95% confidence interval result confirm the robust statistical nature of these results.

Findings indicate that while the present situation of the medical environment is still good, it can be improved further. The study suggests that students' enthusiasm, which is usually high upon submission to medical school, steadily declines over time due to the rigors of the academic program and the resulting fatigue. It becomes less of an issue for students motivated by prestige or parents' expectations as they have to deal with the harsh reality of a very demanding curriculum. Consequently, there is a decline in student engagement and heightened psychological pressure.

The study calls for the implementation of counselling and mentorship schemes across all medical educational institutions and programs. While professional counselling experts can help students with coping and motivation, some may not have access to counselling experts nor programs. In this regard, AI-assisted counselling can step in to identify at-risk students more precisely and select the right interventions. Therefore, the findings reiterate that successful counselling encompasses preventive as well as remedial aspects, fostering academic resilience as well as emotional well-being among future healthcare providers.

The aforementioned findings were obtained through the application of traditional and AI-assisted statistical methods in SPSS. On the other hand, the Counselling Cell Model did not yield any forecasting or counselling results in the course of this research. Even though the model suggests a future roadmap for

AI-based interventions, the inferences shown in this paper rely solely on the data collected from interviews, questionnaires, and statistical analyses— and not from the actual use of the model.

As there were no machine-learning algorithms executed, no predictive models created, no performance metrics like accuracy, precision, recall or AUC were calculated. In an effort to provide methodological clarity, more AI techniques can be incorporated in future studies. Among these are statistical and machine-learning techniques like logistic regression, random forest and gradient-boosting classifiers for predictive modeling; natural language processing tools for recognizing sentiment and emotional states; and clustering methods like K-means or hierarchical clustering for classifying students according to risk.

Conclusion and Recommendations for Future Research

In general, the integration of AI within counselling systems might just be the transformational strategy needed to elevate mental health support systems for students pursuing medical education. AI-enabled tools help higher educational institutions understand student motivation, performance, and feelings through data and thereby, can suggest personalized interventions for students in a more proactive way. Further, AI offers comprehensive counselling support as it helps students maintain their academic performance by identifying their risk levels and providing them with personalized treatment plans. The Counselling Cell Model, proposed by this study, works as a hybrid human-AI system that aims to help students academically and psychologically. As a result, educational institutions can generate medical graduates who possess both professional skills and the ability to think critically while maintaining emotional stability.

Some suggestions that are recommended include:

1. Higher educational institutions establish AI-assisted Counselling Cell Model to help medical students identify potential hazards at an early stage.
2. The model provides tailored intervention plans that match the academic and personal ambitions of students through predictive analytics.
3. Faculty counsellors will learn to interpret AI insights and then use interpersonal engagement to add value to these insights.
4. The system uses continuous monitoring to track progress and assess counselling effectiveness through longitudinal follow-up and feedback loops.
5. Options for alternative medical careers such as research writing and health technology should be made available as potential fields that might better match a person's abilities.

In summary, the combination of traditional counselling methods and AI technology can create a conducive environment that supports medical students by creating equitable access to data-based analysis of their academic performance and mental health condition.

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