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Career Decision Making, Stress, and Its Association with Emotional Intelligence among Medical Undergraduates at HITEC-IMS Taxila Cantt

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ABSTRACT

Medical students are exposed to a wide range of medical specialties during their medical school journey. The most crucial decision at that time is the choice of a career. **Objectives:** To assess the level of career decision-making stress and determine its association with emotional intelligence among medical undergraduates of HITEC-IMS, Taxila Cantt. **Methods:** A cross-sectional study was conducted among HITEC-IMS medical undergraduates from June to October 2025 via stratified random sampling. Data were collected through a structured questionnaire, covering sociodemographic variables, the Career Decision Difficulty Questionnaire (CDDQ), and the Brief Emotional Intelligence Scale 10 (BEIS-10). SPSS version 26.0 was used for analysis. For continuous variables, mean and standard deviation, and for categorical variables, frequency and percentages were calculated. Association between two variables was seen using Chi Square test and Spearman Correlation. **Results:** 48.6% individuals experienced moderate career decision stress, with most (62.8%) struggling with a lack of readiness. The majority (85.3%) had average EI, while 14.7% scored below average. Overall, CDDQ showed a significant association with study year (p=0.004), mother and father occupation (p=0.021 and p=0.010), lack of readiness to number of siblings (p=0.033), and year of study with lack of information(p-0.043). Career-decision stress showed a significant inverse correlation with emotional intelligence (p = –0.404, p<0.001). **Conclusions:** Almost half of the students face moderate stress in career decision-making, but those with higher Emotional Intelligence tend to experience less of it. Strengthening EI and implementing structured career counselling can be effective strategies to alleviate stress and support more informed, confident career choices.

INTRODUCTION

Medical students are exposed to a wide range of medical specialties during their medical school journey. The most important thought at that time in their minds is career choice, and it is among the most important decisions individuals make in their lifetime. Studies report that medical school applicants and entrants have already decided their medical specialties even before graduation. However, choosing a specialty can be confusing and complicated because many factors influence the career choices of undergraduate medical students [1]. These include a personal interest in the specialty, the reputation of the specialty, the desire for a stable and secure future, opportunities for career progression, availability of residency programs, advice from family or friends, working hours, high income potential, and the influence of role model [2, 3]. The Programme for International Student Assessment (PISA) 2022 reported that two in five 15-year-olds across Organization for Economic Co-operation and Development (OECD) countries lack clear career plans. Career uncertainty was found to be higher among boys (41%) than girls (36%), and affected both underachievers (44%) and high achievers (34%). Compared to 2018, career

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uncertainty has risen by over 50%. Research links this uncertainty among youth to lower well-being, future anxiety, and poses risks for academic motivation, decision-making, and workforce readiness, making it a key educational and public health concern [4]. Lately, the Emotional Intelligence (EI) role has gained attention in career development literature. Emotions and stress play a very crucial role and significantly affect the decisions of people. EI is defined as "the ability to perceive accurately, appraise, and express emotions; the ability to access and/or generate feelings when they facilitate thought; the ability to understand emotion and emotional knowledge; and the ability to regulate emotions to promote emotional and intellectual growth". This career decision process often exposes students to many uncertainties, which can result in stress and anxiety [5]. When individuals are stressed, their cognitive and emotional resources are low, and they may avoid making decisions. Studies support that students with low EI tend to avoid or delay making decisions. People with greater emotional intelligence (EI) are less likely avoid or procrastinate decisions. Students who demonstrate a higher EI exhibit strong career decision-making, confidence, and clarity for occupational exploration and career choice commitment [6, 7]. Career decision is relatively simple for some people, while for others, it can be quite a stressful decision due to the internal and external factors that influence one's decision, which often create dilemmas and conflicts [2]. Career indecision is complex, as people seek counselling for various reasons, such as lack of information, unclear identity, anxiety, parental influence, personal preferences, demographic status, and cultural barriers, which contribute to career decision-making difficulties. Lack of proper advice or counselling may lead to anxiety, stress, negative feelings, frustration, and difficulty in coping [8-10].

Researchers have explored career decision stress and emotional intelligence separately, but not much data is available about their interaction for medical undergraduates. This study aims to explore the role of emotional intelligence in career decision uncertainty and stress faced by medical undergraduates of HITEC-IMS. By understanding these influencing factors, we seek to provide insights and offer counseling services, aiding students in managing stress. Ultimately, this will help them make better career choices, improve their well-being, and enhance career satisfaction and performance.

METHODS

An analytical cross-sectional study was conducted on HITEC-IMS undergraduate medical students from June to October 2025 after approval (June 3, 2025) by the Institutional Review Board of HITEC-IMS (HITEC-IRB-53-2025). The Raosoft calculator (http://www.raosoft.com/samplesize.html), based on Cochran's formula (n=n0 / 1 + n0 – 1/N), was used for sample size calculation. An initial sample size of 384 was obtained assuming an infinite population. However, since our population is finite (N = 500), we applied the standard finite population correction (FPC), with a response distribution of 50%, a confidence level of 95%, and a margin of error of 5%; the resulting sample size was 218 [11]. Students from first to final year MBBS were selected through a stratified random sampling technique, with year of study used as the strata. All students from first to final year were included, and those diagnosed with psychiatric conditions and on medications were excluded from the study. Data were collected through a self-distributed structured questionnaire. Informed consent was taken from each participant before the collection of data. The questionnaire consisted of three parts, the first part consisted of socio-demographic variables like age, gender, year of study, number of siblings, parent's occupation. The second part contained the scale to assess the challenges in decision-making, it's a 34-item validated Career Decision Difficulty Questionnaire (CDDQ) (α=0.95) [12]. It had three subscales, first subscale is "Lack of Readiness" which measures general indecisiveness, dysfunctional beliefs and lack of motivation in making career choices, second one is Lack of Information which deals with lack of information in career decision making process, occupation, self and obtaining information, and third is Lack of Inconsistent information which measures lack of unreliable information, internal conflicts and external conflicts. These items were scored on a 9-point Likert scale, 9 being 'describes me well' and 1 being 'does not describe me' [12, 13]. The results were interpreted as Salient, Negligible, and Moderate difficulty levels for every three categories. A mean response of 6.34 and above was considered as "salient", mean scores between 3.33 and 6.34 were considered as "moderate", and mean scores lower than 3.33 were considered as "negligible" difficulty level. The third part consisted of the Emotional Intelligence Scale 10 (BEIS-10), used to assess the level of emotional intelligence. It's a validated 10-item scale (α=0.748), rated on a 5-point Likert scale anchored by 1 = "strongly agree" to 5 = "strongly disagree" [14, 15]. Emotional Intelligence was ranked by percentile: scores 95th and above indicated high EI, 76th–94th above average, 25th–75th average, 6th–24th below average, and 5th or lower reflected low EI.

SPSS version 26.0 was used for data analysis. For continuous variables (CDDQ and EI scores) Mean and standard deviation, and for categorical variables (sociodemographic), frequency and percentages were calculated. Chi-Square test and Spearman Correlation coefficient were used to see the association between two variables.

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RESULTS

The study enrolled first to final year students with an age range from 18 to 26 years. More than half of participants reported < 4 siblings, 122 (56.0%), while 56 (25.7%) had < 2 siblings. The study shows the sociodemographic characteristics of the participants (Table 1).

Table 1: Sociodemographic Characteristics of the Participants

Variables		Frequency (%)
Gender	Male	76 (34.9%)
	Female	142 (65.1%)
Year of Study	First Academic Year	29 (13.3%)
	Second Academic Year	45 (20.6%)
	Third Academic Year	50 (22.9%)
	Fourth Academic Year	75 (34.4%)
	Fifth Academic Year	19 (8.7%)
Occupation of Mother	Housewife	142 (65.1%)
	Skilled Professionals**	17 (7.8%)
	Teacher	50 (22.9%)
	Government Employee and Others	9 (4.1%)
Occupation of Father	Self-Employed*	52 (23.9%)
	Skilled Professionals**	42 (19.3%)
	Teacher	23 (10.6%)
	Army Officer	23 (10.6%)
	Government/Private Employees and Others	78 (35.8%)

*Self-employed: Businessman, Landlord. **Skilled professionals: Doctor, Lady Health Worker, Engineer, Lawyer

The majority of the students fell in the moderate difficulty level in the lack of readiness subscale 137 (62.8%), and evenly distributed responses were observed between negligible and moderate difficulty levels 91 (41.7%) in the Lack of Information subscale, whereas in the inconsistent information subscale, the majority fell in the negligible category 99 (45.4%). Detailed information on the difficulty level of three subscales of the CDDQ is displayed (Table 2).

Table 2: Distribution of Participant Responses among Subscales of CDDQ

CDDQ Subscale	Difficulty Level	Frequency (%)
Lack of Readiness	Negligible	48 (22%)
	Moderate	137 (62.8%)
	Salient	33 (15.1%)
Lack of Information	Negligible	91 (41.7%)
	Moderate	91 (41.7%)
	Salient	36 (16.5%)
Lack of Inconsistent Information	Negligible	99 (45.4%)
	Moderate	84 (38.5%)
	Salient	35 (16.1%)

The findings of the study revealed that almost half of the participants, 106 (48.6%), experienced a moderate level of stress in overall CDDQ, and about 27 (12.4%) fell into the salient difficulty level (Figure 1).

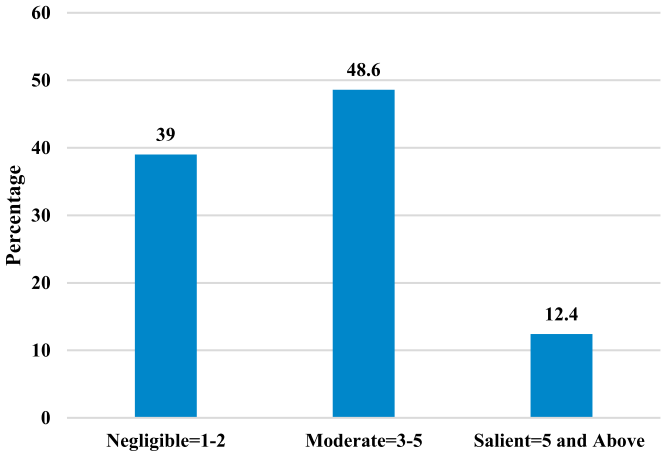

Figure 1: Distribution of Participants' Responses to the Overall CDDQ

The study showed that all the medical students lie in only two percentile groups of emotional intelligence, which are Average and Below Average. The majority of student 186 (85.3%) fell into the average EI percentile (Figure 2).

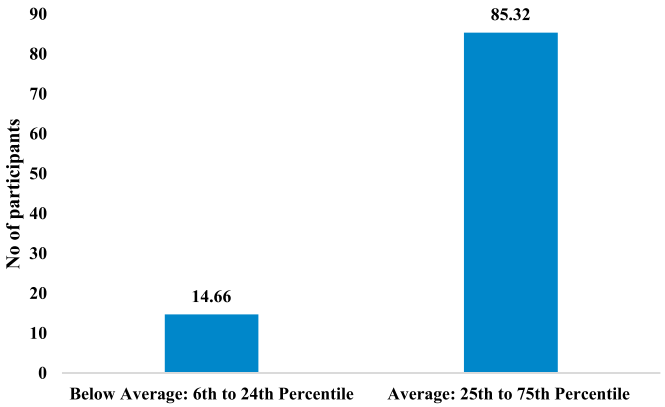

Figure 2: Emotional Intelligence Percentile of the Participants

The association between socio-demographic characteristics and the Career Decision Difficulty Questionnaire (CDDQ) and its subscales was examined. Statistically significant relationships were found between variables such as academic year of study, number of siblings, and parental occupation with both the overall CDDQ score and its subscales, suggesting that these factors influence career decision-related stress (Table 3).

Table 3: Association of Demographic Variables with Overall CDDQ and Its Subscales

Socio-Demographic Variable	Lack of Readiness	Lack of Information	Lack of Inconsistent Information	Overall CDDQ Level
	p-value			
Gender	0.517	0.258	0.151	0.538
Year of Study	0.390	0.043*	0.065	0.004**
Occupation of Mother	0.765	0.340	0.145	0.021*
Occupation of Father	0.159	0.188	0.172	0.010*
Number of Siblings	0.033*	0.146	0.916	0.698

*p<0.05 (statistically significant). ** p<0.01 (highly statistically significant)

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Emotional Intelligence (EI) and Career Decision-Making Stress (CDSS) were assessed using both Chi- square test and spearman correlation coefficient. A 95% confidence interval was applied for all inferential analyses. On applying chi square test, a statistically significant association was observed between these two variables (p<0.001). Spearman's correlation analysis showed a moderate but statistically significant negative correlation between EI and CDDQ scores (p = –0.404, p<0.001), indicating that students with higher emotional intelligence reported lower levels of Career Decision Stress (Table 4).

Table 4: Correlation and Association Between Emotional Intelligence and Career Decision-Making Difficulties

Analysis	Variable Groups	Negligible, (n=85)	Moderate, (n=106)	Salient, (n=27)	Correlation/p-value
Chi-Square Test[a]	EI Percentile Below Average (6th–24th)	4	13	15	0.001
	EI Percentile Average (25th–75th)	81	93	12	<0.001
Spearman Correlation[b]	Total EI vs. Sum CDDQ	—	—	—	ρ = –0.404, <0.001

Chi-square a test showed a significant association between EI percentile and group (p<0.001). Spearman's coefficient b indicates statistically significant correlation: ρ = –0.404, p<0.001

DISCUSSION

By exploring the relationship between career decision-making stress and emotional intelligence (EI) and sociodemographic factors, this study provides important insights into how emotional competence and sociodemographic variables influence the career decision-making process of medical students of HITEC-IMS Taxila. A moderate level of difficulty in career decision-making was experienced by nearly half 106 (48.6%) of the students. Chi-square test revealed a statistically significant association between CDDQ and EI; additionally, a moderate negative correlation was also found between these two variables through Pearson correlation. More than half of the students, 137 (62.8%), reported moderate difficulty in the "Lack of Readiness" subscale, indicating that a significant proportion of participants were uncertain and felt less motivated in their career decision. On the other hand, the Lack of Information subscale showed even distributed responses between negligible and moderate difficulty, 91 (41.7% each), signifying that less than half of the participants had enough information and were well aware of their career choice, while others still struggled to gain relevant career information. Studies conducted in India and China showed contrasting results, where the majority of students faced difficulty in the Lack of Readiness 60 (81.25%) and in the Lack of Information Scale 56 (70%) [16, 17]. The majority of students, 186 (85.3%) of HITEC-IMS Taxila Cantt, scored an average percentile for EI, while only 32 (14.7%) medical students feel below-average percentile, suggesting that most students had average emotional competence, which is necessary for decision-making power. Contradictory results were observed in another study where students had poor EI [18]. There could be several plausible reasons for our students' high EI percentile, such as we have a structured mentorship program and continuous feedback assessment, which can enhance EI development. Secondly, the difference in results could be due to different EI scales used in both studies [19]. Significant associations of sociodemographic variables such as year of study and parents' occupation with overall CDDQ scores were found. This indicates that both these variables had an influence on the career decision stress level. Students with a professional background may feel more supported and less stressed than those with less privileged backgrounds. Studies conducted in Multan, Saudi Arabia, and Vietnam also support our study results [20, 21]. Interestingly, the relationship between the number of siblings and lack of readiness was also seen, suggesting that larger families affect decision-making in career choices due to shared responsibilities or financial pressure. Other variables, gender, did not show any significant associations with the overall CDDQ score, indicating its limited role in career stress within medical students. In contrast to that, some studies have identified gender as a significant predictor of career decision-making difficulty [20, 22]. Another most important finding of this study is the moderately significant negative correlation between EI and CDDQ scores (r = –0.513, p < 0.001) that medical students with higher emotional intelligence experience less stress in making career choices than those with low emotional intelligence. Our findings are supported by studies conducted in China and the UK, which reported that individuals with high emotional intelligence have a better understanding of their abilities and preferences, which not only reduces stress but also increases self-confidence among university students [6, 9]. In contrast, a study conducted in Italy failed to find any significant association between these two variables, suggesting that one's ability to control one's emotions has no impact on the decision-making process [23].

There are a few limitations of our study. It was a single institution-based study, and students from only one academic discipline were included, which may limit the generalizability of the findings. The sample size was calculated using Cochran's formula through the Raosoft calculator, which assumes simple random sampling. In our

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study, stratified random sampling was applied, so the formula served as a guideline. Additionally, the cross-sectional design captures associations at one point in time and does not allow conclusions about causality. The study relied on self-reported questionnaires (CDQQ, EI scales), which may be influenced by social desirability or response bias. Teach students skills that help improve emotional intelligence. Provide career-guidance services so students can get help choosing a specialty. Support students who may not get enough guidance from home. Do more studies in other colleges and over longer periods to understand this issue better.

CONCLUSIONS

The findings show that most of the medical students had a moderate level of career decision stress and an average percentile for Emotional Intelligence. Students with higher Emotional Intelligence experience less stress in career decision-making. Sociodemographic factors such as parents' occupation and academic year highlight their influence on decision-making power. Overall, the study highlights that career decision-making difficulty stress is an issue among medical students, and emotional intelligence plays a protective role in coping with that stress.

Authors' Contribution

Conceptualization: AA
Methodology: AA, NR, RS, MZ
Formal analysis: AA, NR, RS, MR[1], MR[2],
Writing and Drafting: AA, MR[1], MR[2],
Review and Editing: AA, NR, RS, MR[1], MR[2], MZ

All authors approved the final manuscript and take responsibility for the integrity of the work

Conflicts of Interest

All the authors declare no conflict of interest.

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