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COMPARATIVE ANALYSIS OF THE AWARENESS REGARDING THE IMPACT OF EMOTIONAL INTELLIGENCE ON ACADEMIC PERFORMANCE AMONG MBBS AND ALLIED HEALTH SCIENCES STUDENTS AT SARGODHA MEDICAL COLLEGE

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Abstract

Emotional intelligence (EI), is a crucial skill, involving effective emotional management, problem-solving, and strong relationships. It promotes motivation, focus, and deeper understanding, and can be improved through consistent guidance. The students of medical and health sciences frequently encounter emotionally challenging situations that affect their academic performance. This study is done to analyse the impact of EI on academic performance of students.

A Comparative cross-sectional study was conducted at Sargodha Medical College. The study utilized Probability Sampling and Stratified Random Sampling Methods to select 200 medical and AHS students, analyzing their emotional intelligence impact through a field survey and secondary data.

The study revealed significant differences in EI across gender, residence and academic level among MBBS and AHS students. Both groups demonstrated high levels of confidence in regulating their own emotions, with mean scores of 4.31 for MBBS and 4.34 for AHS. In terms of regulating others' emotions, both groups reported similar levels of competence, with mean scores of 4.20 for MBBS and 4.23 for AHS. Overall, the day scholars showed greater EI than hostel residents (>0.005), whereas 2nd-year students demonstrated markedly better EI than first-year students (>0.001). Moreover, there was no difference among the MBBS and AHS students in the first year of the studies (0.62), whereas it revealed significant differences in EI across MBBS and AHS students of the second year (>0.005). Importantly, our data suggests that female students exhibit better EI than male students across various dimensions that are assessed in this study (>0.001).

The findings indicate a strong awareness of emotional regulation across both streams, highlighting the necessity for targeted EI training in medical education to enhance emotional skills and support academic success. The study underscores its importance in medical education, emphasizing its role in academic performance and psychological well-being, and the need for holistic strategies to prepare future healthcare professionals.

Keywords: *Academic performance, Allied health sciences (AHS), Emotional intelligence (EI), Emotional regulation, MBBS*

INTRODUCTION

Emotional Intelligence (EI) is the ability to recognize, understand, manage, and utilize emotions effectively in oneself and others. It encompasses several key components such as self-awareness, self-regulation, motivation, empathy. Emotional Intelligence is crucial in various aspects of life, including personal relationships, professional success and importantly mental health. In the context of medical education, EI has been shown to correlate with academic and clinical performance, as well as the ability to manage stress and maintain patient satisfaction. Studies indicate that emotionally intelligent medical students

are better equipped to handle the demands of their training and future practice, leading to improved patient care outcomes (1, 2).

Executives and human resource managers frequently engage in discussions about emotional intelligence (EI), often referred to as emotional quotient (EQ). Since Daniel Goleman introduced his seminal works on emotional intelligence in 1995, management practices have undergone a significant transformation, and the influence of EI has remained strong over the years. Emotional intelligence, sometimes equated with "soft skills" or "people skills," broadly encompasses the ability to manage life's occurrences effectively. Gardner's theories on intelligence offer two key aspects of emotional intelligence: intrinsic intelligence and relational theory. Intrinsic intelligence involves cognitive capacity and self-awareness, enabling individuals to recognize and differentiate their deep emotions, which should be prioritized for personal growth. Relational theory, on the other hand, explores how individuals perceive and interpret the emotions and intentions of others during interpersonal interactions (3-5).

Emotional intelligence fundamentally refers to the ability to identify, articulate, and regulate one's emotions. It also involves organizing emotions, overcoming personal challenges, and managing both one's own feelings and those of others. Developing emotional intelligence skills not only enhances individual performance but also facilitates quicker adaptation to new circumstances, increasing the likelihood of future success. Research has consistently highlighted the importance of emotional intelligence in life, linking it to improved social skills, stronger long-term relationships, and superior problem-solving abilities. Students with high emotional intelligence are better able to maintain enthusiasm and focus, which supports the development of cognitive abilities and deeper subject comprehension. By receiving consistent guidance and addressing challenges with persistence, individuals can enhance their emotional intelligence, even if it requires letting go of certain entrenched habits. Ultimately, emotional intelligence plays a critical role in personal development, interpersonal relationships, and long-term success (6, 7).

The current study describes estimations of different components of EI in a group of medical and allied health sciences students at Sargodha Medical College and underscores the need for mentoring and awareness of young minds in this regard.

MATERIALS AND METHODS

A Comparative cross-sectional analytical study was conducted form September 2023 to February 2024 at Sargodha Medical College targeting on the enrolled first year and second year undergraduate students pursuing a MBBS and Allied Health Sciences (DPT) with a sample size of 200 participants, including only students currently with informed consent obtained excluding those having any history of psychiatric disease.

The data was collected using a convenience non-probability sampling approach, without adhering to specific criteria. The participants completed a questionnaire that included the Brief Emotional Intelligence Scale (BEIS-10) (8). To verify the questionnaire is filled out accurately, we selected students from each year to participate in appropriate field activities. The questionnaire covers demographics and emotional intelligence. Several emotional intelligence statements were in the questionnaire's covers five core components: Appraisal of Own Emotions, Appraisal of Others' Emotions, Regulation of Own Emotions, Regulation of Others' Emotions, and Utilization of Emotions. Additionally, students were asked about how much they are concerned about professional future. The respondents were asked to rate their ideas on a predetermined Likert Scale with five points: 1 – Strongly Disagree, 2 – Disagree, 3 – Neutral, 4 – Agree, and 5 – Strongly Agree. The data were analyzed using SPSS version 29, employing descriptive statistics such as frequencies and percentages for demographic and categorical variables. Emotional intelligence was compared across demographic variables using an independent sample t-test and one-way ANOVA.

RESULTS

After filling up of the entire questionnaire, tabulation has been done to draw meaningful inference from them. Tabular & graphical presentation has been done for the collected data. Table I presents demographic details of respondents categorized by gender, residence, and academic year for two groups:

MBBS (Bachelor of Medicine, Bachelor of Surgery) and AHS (Allied Health Sciences). In both the groups, females outnumber males, with females comprising 68% of the MBBS group and 72% of the AHS group. A significant majority of respondents in both groups live in hostels, with 83% of MBBS and 86% of AHS students residing in hostel accommodation. The academic year distribution is uniform in both groups, with an equal number of respondents in the 1st and 2nd years, each comprising 50% of their respective groups. Over all the data shows the representation of genders, a high percentage of hostel residents, and an equal distribution of academic years among the respondents in both the MBBS and AHS programs. This demographic information provides a clear context for understanding the sample population in the analysis that follows the study.

Table I. Demographic Details of the Respondents

Gender	MBBS (n=100)		AHS (n=100)	
	Frequency	%	Frequency	%
Male	32	32	28	28
Female	68	68	72	72
Residence				
Hostel	83	83	86	86
Day Scholar	17	17	14	14
Academic Year				
1st Year	50	50	50	50
2nd Year	50	50	50	50

The Table II illustrates whether the respondents perceive their own emotional goals. Among all responses from the medical stream, 1% strongly disagreed, 7% disagreed, 19% were neutral, 30% agreed, and the remainder 43% of respondents strongly agree that their aims are clearly defined. Concerning AHS stream responders, 1% strongly disagreed, 8% disagreed, 15% were neutral, 22% agreed, and the remainder 54% of respondents strongly agree with this statement. The mean scores indicate a generally positive perception of emotional regulation skills among both groups, with AHS participants reporting slightly higher scores.

Table II. Appraisal of own emotions: Implications for personal well-being, self-awareness and emotional regulation

Appraisal of Own Emotions	MBBS (n=100)		AHS (n=100)	
	Frequency	%	Frequency	%
Strongly Disagree (1)	1	1	1	1
Disagree (2)	7	7	8	8
Neither Agree nor Disagree (3)	19	19	15	15
Agree (4)	30	30	22	22
Strongly Agree (5)	43	43	54	54
Total	100	100	100	100
Mean Score	4.07		4.20	

Similarly, the Table III illustrates whether the respondents perceive others' emotions. Among all responses from the medical stream, 1% strongly disagreed, 7% disagreed, 19% were neutral, 30% agreed, and the remainder 43% of respondents strongly agree that their aims are clearly defined. Concerning AHS stream responders, 1% strongly disagreed, 8% disagreed, 15% were neutral, 22% agreed, and the remainder 54% of respondents strongly agree with this statement. The mean scores reflect a generally positive perception of emotional regulation skills among both groups, with MBBS participants reporting a slightly higher score than AHS participants.

Table III. Appraisal of Others' Emotions: role in effective interpersonal communication, empathy, and social interactions

Appraisal of Others' Emotions	MBBS (n=100)		AHS (n=100)	
	Frequency	%	Frequency	%
Strongly Disagree	3	3	4	4
Disagree	3	3	2	2
Neither Agree nor Disagree	8	8	7	7
Agree	41	41	44	44
Strongly Agree	45	45	43	43
Total	100	100	100	100
Mean Score	4.22		4.20	

The Table IV illustrates whether the respondents are able to regulate their own emotions. Among all responses from the medical stream, 1% strongly disagreed, 4% disagreed, 10% were neutral, 35% agreed, and the remainder 50% of respondents strongly agree that their aims are clearly defined. Concerning AHS stream responders, 2% strongly disagreed, 5% disagreed, 8% were neutral, 36% agreed, and the remainder 49% of respondents strongly agree with this statement. The mean scores indicate high levels of positive perception regarding their ability to regulate their own emotions, with AHS participants reporting slightly higher scores.

Table IV. Regulation of own emotions: role in personal well-being, stress management and personal growth

Regulation of Own Emotions	MBBS (n=100)		AHS (n=100)	
	Frequency	%	Frequency	%
Strongly Disagree	1	1	2	2
Disagree	4	4	5	5
Neither Agree nor Disagree	10	10	8	8
Agree	35	35	36	36
Strongly Agree	50	50	49	49
Total	100	100	100	100
Mean Score	4.31		4.34	

Similarly, the Table V illustrates whether the respondents regulate others emotions. Among all responses from the medical stream, 2% strongly disagreed, 5% disagreed, 12% were neutral, 38% agreed, and the remainder 43% of respondents strongly agree that their aims are clearly defined. Concerning AHS stream responders, 1% strongly disagreed, 4% disagreed, 10% were neutral, 42% agreed, and the remainder 43% of respondents strongly agree with this statement. The scores indicate that both groups feel competent in regulating the emotions of others, with MBBS participants reporting a slightly lesser score than AHS participants.

Table V. Regulation of Others' Emotions: ability to influence and respond to the emotional states of others, fostering positive interactions

Regulation of Others' Emotions	MBBS (n=100)		AHS (n=100)	
	Frequency	%	Frequency	%
Strongly Disagree	2	2	1	1
Disagree	5	5	4	4
Neither Agree nor Disagree	12	12	10	10
Agree	38	38	42	42
Strongly Agree	43	43	43	43
Total	100	100	100	100
Mean Score	4.20		4.23	

The Table VI investigates whether students in the medical field perceive emotional intelligence as a means to achieve their objectives. Results from medical stream students demonstrate that 2% respondents are strongly disagree, 7% respondents are disagree, 32% respondents neither agree nor disagree, 29%respondents are agree and rest also 30% respondents are strongly agree and say that they believe so. Among AHS stream respondents, 1% strongly disagree, 8% disagree, 30% neither agree nor disagree, 24% agree, and 38% strongly agree with this assertion. The mean scores indicate a generally positive perception of emotional regulation skills among both groups, with MBBS participants reporting a slightly higher score than AHS participants.

Table VI. Utilization of emotions: emotional Intelligence is a tool helps in accomplishing goals

Utilization of Emotions	MBBS (n=100)		AHS (n=100)	
	Frequency	%	Frequency	%
Strongly Disagree	1	1	2	2
Disagree	8	8	7	7
Neither Agree nor Disagree	30	30	32	32
Agree	24	24	29	29
Strongly Agree	38	38	30	30
Total	100	100	100	100
Mean Score	3.93		3.78	

The Table VII seeks to ascertain whether the respondents are apprehensive about their professional future. Among medical students, no respondents highly disagree, 3% disagree, 7% neither agree nor disagree, 40% agree, and the remaining 50% strongly agree with their professional destiny. Among AHS stream responders, none strongly disagree, 3% disagree, 7% neither agree nor disagree, 43% agree, and the

remaining 47% highly agree regarding their professional future. The mean scores indicate a high level of positive perception regarding emotional regulation skills among both groups, with AHS participants having a slightly higher mean score than MBBS participants.

Table VII. Concerned about their professional future

Concerned Professional Future	MBBS (n=100)		AHS (n=100)	
	Frequency	%	Frequency	%
Strongly Disagree	0	0	0	0
Disagree	3	3	3	3
Neither Agree nor Disagree	7	7	7	7
Agree	43	43	39	39
Strongly Agree	47	47	51	51
Total	100	100	100	100
Mean Score	4.34		4.38	

The findings of the empirical analysis indicated that gender, residence and academic level among MBBS and AHS students are the significant factor influencing emotional intelligence (EI). Both groups demonstrated high levels of confidence in regulating their own emotions, with mean scores of 4.31 for MBBS and 4.34 for AHS. In terms of regulating others' emotions, both groups reported similar levels of competence, with mean scores of 4.20 for MBBS and 4.23 for AHS. An independent samples t-test revealed that the day scholars showed greater EI than hostel residents (>0.005), whereas 2nd year students demonstrated markedly better EI than first year students (>0.001). Moreover, there was no difference among the MBBS and AHS students in the first year of the studies (0.62), whereas there were significant differences in EI across MBBS and AHS students of second year (>0.005). Importantly, our data suggests that female students exhibit better EI than male students across various dimensions that are assessed in this study (>0.001). These findings underscore that while gender and residence significantly directly influenced emotional intelligence at all levels. But there was no difference among the MBBS and AHS students in the start of their studies, yet they may differentiate meaningfully in influenced emotional intelligence with their increasing academic level.

DISCUSSION

This study compares the awareness of emotional intelligence (EI) of Sargodha Medical College MBBS and AHS students on their perceived academic performance. This academic achievement is compared to other programs. We found crucial patterns and relationships that illuminate how emotional intelligence characteristics influence academic success for several student groups using statistical analysis. The findings from this comparative cross-sectional study provide valuable insights into the emotional intelligence (EI) of first-year and second-year undergraduate students in the MBBS and Allied Health Sciences (AHS) programs at Sargodha Medical College. The study's results indicate significant trends regarding the appraisal and regulation of emotions, as well as concerns about professional futures, which are crucial for understanding the emotional landscape of future healthcare professionals.

The demographic data reveal a higher representation of female students in both MBBS (68%) and AHS (72%) programs. This aligns with existing literature that suggests a growing trend of female enrollment in medical and health sciences fields (9). Female students have been shown to possess higher emotional intelligence compared to their male counterparts, particularly in areas such as emotional appraisal and regulation (10). The results of this study support these findings, with a significant majority of both male and female students reporting clarity in their emotional goals and the ability to appraise others' emotions effectively.

The data indicate that a substantial proportion of respondents in both groups feel confident in their ability to appraise their own emotions and the emotions of others. Specifically, 43% of MBBS students and 54% of AHS students strongly agree that their emotional goals are clearly defined (Table II). This finding is consistent with research indicating that higher emotional intelligence is associated with better self-awareness and social awareness, which are critical competencies for healthcare professionals (11). Moreover, the ability to appraise others' emotions is essential for effective communication and empathy in clinical settings (12). The results show that a majority of both MBBS and AHS students believe they can perceive others' emotions accurately, which is a positive indicator for their future roles as compassionate healthcare providers.

The results indicate that a significant majority of respondents from both streams feel confident in their ability to regulate their own emotions. Specifically, 50% of MBBS respondents and 49% of AHS respondents strongly agree that they can effectively manage their emotional states. This high level of self-reported competence aligns with existing literature that emphasizes the importance of self-regulation in personal well-being and stress management. Effective self-regulation is associated with better mental health outcomes and improved coping strategies in stressful situations (13,14). This perception emotional regulation skills are crucial as it can influence their overall emotional resilience and ability to navigate challenges in their personal and professional lives. Research indicates that individuals who are adept at regulating their emotions tend to experience fewer interpersonal conflicts and maintain higher-quality relationships (15).

In terms of regulating the emotions of others, the data reveal that 43% of MBBS respondents and 43% of AHS respondents strongly agree with their ability to influence and respond to the emotional states of others. This finding underscores the significance of interpersonal emotion regulation (IER), which involves the processes through which individuals manage the emotional responses of others during social interaction. The ability to effectively regulate others' emotions is essential in fostering positive interactions and building supportive relationships, particularly in high-stress environments such as healthcare settings (16).

The study also explored the regulation of emotions, revealing that students perceive emotional intelligence as a tool for achieving their goals. Although 30% of MBBS and 38% of AHS students strongly agree with this assertion (Table VI), a notable percentage of respondents remain neutral. This suggests that while many recognize the importance of emotional intelligence in professional settings, there may be gaps in understanding how to effectively apply these skills in practice. Effective emotional regulation is critical in high-stress environments such as healthcare (17). Training programs that focus on enhancing emotional regulation strategies could be beneficial, as students often encounter emotionally charged situations during their training. Incorporating EI training into medical curricula may equip students with better tools for managing their emotions and the emotions of others. Medical students, both men and women, as medical students, exhibit good level of emotional intelligence (2,18).

Regarding concerns about their professional futures, the data show that a significant percentage of students express apprehension, with 50% of MBBS students and 47% of AHS students strongly agreeing that they are concerned about their professional destiny (Table VII). This concern may stem from the rigorous demands of medical and health sciences education, as well as uncertainty regarding future job prospects in a competitive field. Research has indicated that anxiety about the future is common among medical students and can impact their mental health and academic performance (19). Self-motivation is a key determinant in academic success, and this principle applies to medicine and health science, which have rigorous curricula and similar self-motivation. Motivation-boosting interventions may benefit all students, regardless of gender or program.

CONCLUSION

In conclusion, this study highlights the significance of emotional intelligence among medical and allied health students, emphasizing the need for educational interventions that enhance emotional skills. The findings suggest that while students generally perceive their emotional competencies positively, there is room for improvement, particularly in the application of these skills in their future professional roles. It emphasizes the critical role of emotional intelligence in medical education by adopting a holistic approach and addressing gaps in existing research. Incorporating emotional intelligence training into the curriculum could not only improve students' emotional awareness and regulation but also enhance their overall well-being and professional readiness.

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