



RESEARCH PAPER

Effect of Emotional Intelligence on Students' Academic Performance at University Level: A Novel Perspective

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ABSTRACT

Emotional Intelligence (EI) has gained significant attention as a determinant of academic performance, complementing traditional cognitive measures. This study examines the impact of EI on university students' academic success, focusing on key dimensions including self-awareness, self-management, empathy, and relationship management. Utilizing a structured survey administered to a sample of 300 undergraduate students at Khwaja Fareed University of Engineering and Information Technology (KFUEIT), Rahim Yar Khan, the study employs structural equation modeling (SEM) via SmartPLS 4 to explore the relationships between EI and academic outcomes. The findings reveal a significant positive relationship between EI and academic performance, with relationship management identified as the most influential dimension. These results underscore the critical role of emotional competencies in fostering resilience, motivation, and effective interpersonal interactions, thereby contributing to improved academic achievement. This study demonstrates the potential of employing strategies related to the promotion of emotional intelligence, such as training or curriculum integration, to augment students' emotional and academic performance. It contributes to the growing body of academic literature emphasizing the significance of incorporating emotional intelligence in educational practices, advocating for its implementation in student development. Consequently, future research should conduct longitudinal studies to investigate the moderating effects of sociodemographic characteristics on the application of emotional intelligence for academic purposes.

KEYWORDS Academic Performance, Emotional Intelligence, Interpersonal Skills, Self-awareness, Self-Management

Introduction

In higher education environments, the factors influencing student accomplishment extend beyond cognitive abilities and traditional assessments of intelligence. Self-regulation, particularly EI, defined as the capacity to recognize and adeptly control emotions, has emerged as a significant predictor of academic performance (Antonopoulou, 2024). EI contrasts with general intelligence, which focuses on cognitive, as it pertains to learning behaviors and interpersonal interactions influenced by emotions. The academic profile of university students exhibits distinct characteristics, including elevated stress levels, varied social contexts, and a sense of self-responsibility among the students. The identified issues demonstrate the significance of EI in fostering adaptability, emotional resilience, and effective interpersonal communication (Liu et al., 2021; Zafar & Akhtar, 2023). Nevertheless, the

correlation between EI and academic success at the university level has garnered insufficient scrutiny, particularly regarding the influence of distinct EI components on achievement.

This article aims to address this gap by providing a systematic review of the correlation between EI and academic success in university settings. This research establishes the theoretical and empirical basis for examining the impact of emotional competences on educational results and contributes to the development of more comprehensive educational support models.

EI can be said to be a recent phenomenon that has found its way into modern usage especially in the field of education. Therefore, EI is defined as the capacity to recognize emotions in oneself and others, to understand and apply them, and to manage them within different individual and social interactions affecting diverse interpersonal and individual processes and effects (Buşu, 2020; Arshad et al., 2024). In school context it is accepted as one of the factors that positively affects students' performance together with other types of intelligences. The purpose of this project is to explore the relationship between EI and the performance of university students, with the view of providing a theoretical framework to fill the gap between research and application. EI was first defined by Salovey and Mayer in 1990 and later by Goleman in 1995 and has been later receiving a lot of attention from theorists and researchers from fields like psychology, education, and even business management (Singh et al., 2022; Akram et al., 2024). This paper will argue that even though academic achievement has for a long time been defined by academic skills and intelligence, EI is also just as important as a determinant of performance. The university atmosphere, characterized by significant academic pressure and complex social interactions, works as an optimal context for examining the relationship between EI and academic achievement. University students face multifaceted difficulties: academic difficulties, interpersonal conflicts, and emotional turmoil. These experiences necessitate the use of EI competencies such as self-awareness, empathy, self-regulation, and social skills (Ibrahim et al., 2024).

The research indicating that emotional regulation enhances kids' academic performance and other life dimensions is compelling. Students possessing a high level of EI are likely to manage stress effectively, maintain healthy relationships with peers and teachers, and exhibit more motivation and engagement in studying (Shakir et al., 2011; Zhoc et al., 2020). Nonetheless, a research gap persists on the impact of EI on academic success at the university level. Prior research has focused on secondary schools or workplaces; therefore, the present study seeks to address the gap by examining the function of EI in higher education institutions. This study addresses this gap by investigating the direct and indirect relationships between EI and the academic performance of university students. This research utilizes both theoretical and empirical data analysis methods to improve the synthesis of factors contributing to academic success and the role of EI in achieving this objective.

This research aims to examine the relationship between EI and students' performance by using various and rigorous research approaches to measure the several facets of EI and academic performance. In addition, this study examines the moderator and mediator variables of gender, age, and field of study to present an extensive explanation of the relationship between EI and academic performance. This research has important implications for theoretical development; however, it will also be of interest to educators, policymakers, and teams of university administration. When EI is considered important in an academic context, then it would be easier for all

stakeholders to devise strategies through which the emotional skills of every student can be developed so that the academic climate is positive and positive for growth. Introducing the training in the use of the EI in university curricula and student services might help the students manage their classes effectively.

Literature Review

“Literature review is a written overview of major writings and other sources on a selected topic. Sources covered in the review may include scholarly journal articles, books, and websites. The purpose of literature review is to gain an understanding of the existing research and debates relevant to a particular research topic” (Ahmad et al., 2024). Following is the literature review for the present research study.

Emotional Intelligence, as a concept, has gone through many changes since its initial conceptualization by Salovey and Mayer (1990). Their model defines EI as a form of cognitive and affective skills which encompasses abilities like perceiving emotions, using emotions to enhance thinking, understanding the emotions, and managing emotions (Kurdi, et al., 2020). This theoretical framework has been important in providing the theoretical background for how individuals encode, recover and manage emotional information in their interpersonal interactions and decision-making processes. Goleman (1995) broadened the definition of EI by coming up with the mixed model that comprises of the ability and the personality aspects (Carroll, 2017). Goleman’s framework emphasizes five main aspects: self-awareness, self-regulation, motivation, empathy and social skills. All these factors have been used in education research to establish their effects on students’ performance especially in learning institutions that require adaptability and interpersonal relations such as universities.

Emotional Intelligence and Academic Performance

In the same respect, research findings can be used to confirm that EI plays a significant role in determining academic achievement. For example, Parker, et al. (2004) did a cross-sectional survey investigating the relationship of EI and first-year university students. The results showed that students with higher EI had better chances to cope with academic demands, be more resilient with the academic challenges, and perform better than the counterparts with lower EI (Parker, et al., 2005). In the same manner, Petrides, Frederickson, and Furnham (2004) has also pointed out that trait EI is also effective in academic settings. According to their findings, they have discovered that EI influences academic achievement through motivation, stress, and interpersonal relationship (Petride, et al., 2006; Shafqat et al., 2024). Altogether, the obtained results indicate the necessity of further development of EI to improve academic outcomes.

The Role of Emotional Intelligence in Stress and Coping

University students face stressors in form of academic related pressures including deadlines, competition and social pressure. Emotions are also crucial in preparing students to manage these challenges because they form the basis of EI (Chen, & Guo, 2020). People with high EI are in a better position to use problem solving and emotional regulation to counter act the effects of stress on academic performance (MacCann, 2020). Subsequent studies provide evidence to the effect that EI determines the extent to which students can cope with academic stress (Augusto-Landa, et al., 2024). In their study, they showed that students with higher EI score had less anxiety levels and better academic performance. This relationship reveals a clear cross-over

element between emotive control and other cognitive functions, especially in environments with tremendous academic pressure.

Emotional Intelligence and Social Interactions

Interpersonal communications are important for learning especially when a course involves group work as is the case with most learning institutions. EI makes it easier to form good interpersonal relationships because it helps in communication, understanding other people's feelings as well as solving conflicts (Jordan, 2021; Mumtaz et al., 2024). According to Bar-On (2007), students with higher EI are likely to develop positive interaction with other students and teachers, which will enhance positive learning environment.

Besides, Salovey and Straus (2003) undertook a study to establish the correlation between EI and social adaptation in academic environments. The outcome showed that students who achieved higher scores in the EI test tended to display more prosocial behaviors, engage in group work effectively and be rated higher by instructors and peers. That is why these results indicate that the level of EI not only affects individual performance but can also affect the result of academic groups.

Material and Methods

Methodical procedure used for data collection to resolve the problem is called research methodology; its function is to provide systematic structure of the research study, additionally in this part researcher give account of the research methods used in research. (Ahmad, Cheema & Farhat, 2023; Sadaf et al., 2024). Following material and methods are used in the present research.

The present study is basically descriptive in nature, and it seeks to examine the relationship between EI and students' AP at the university level. This paper identified the survey method as being most suitable for achieving accurate results and for responding to the research aims. The data were collected using a structured questionnaire developed for this particular study. In performing the analysis of the data, the research used SmartPLS 4 which is a structural equation modeling (SEM) tool.

Population

"The population is defined as a set of individuals, data, or items from which a statistical sample is taken" (Younus et al., 2023). The target population for this research comprised of all undergraduate students of KFUEIT, Rahim Yar Khan. KFUEIT hosts a diverse student body from various regions of Pakistan, such as Sindh, South Punjab, Central Punjab, and Baluchistan, ensuring the inclusion of diverse perspectives in the study.

Sampling

A simple random sampling technique was employed for participant selection due to the accessibility of students and the constraints of time and resources. A total of 300 students were selected from 10 departments, with 30 students representing each department. This sampling method allowed for a practical approach while maintaining enough representation across the departments. The study sample comprised students from various semesters and academic backgrounds, ensuring diversity in academic experiences and EI levels.

Table 1
Personal Characteristics of Respondents

Personal Characteristics	Category	N
Departments	Natural Sciences	10
	Social Sciences	
	Bio Sciences	
Semester	BS	300
	6 th	
	7 th	
	8 th	
Gender	Male	150
	Female	150

Research Tool

Research tool perform important role in collecting accurate information from the research participants (Rao et al., 2023; Hassan et al., 2024). For this study, self- the Self-Developed Emotional Intelligence Scale (SDEIS) was used. These scales were adapted and validated for the Pakistani university context. The SDEIS consisted of 35 items measuring different dimensions of EI. Additionally, students' cumulative grade point average (CGPA) was recorded as a standardized measure of academic performance.

The Validity of the scale was ensured through pilot testing and expert validation, achieving a Cronbach's α of 0.70.

Ethical Consideration

Ethical consideration included ensuring informed consent and participant confidentiality, a harmless process, and adhering to ethical guidelines throughout the research process.

Results and Discussion

The analysis focused on evaluating the relationship between EI and AP among university students. Data analysis was conducted using SmartPLS 4 software, employing structural equation modeling to determine the strength of relationships and statistical significance of the findings. This section presents a concise interpretation of the results, supported by tables and figures from the study.

The descriptive analysis of EI factors is presented in Table 1. Relationship Management had the highest mean score (33.63), indicating its critical role in fostering interpersonal interactions among students. Its distribution exhibited a pronounced peak (kurtosis = 1.905) and a leftward skew (skewness = -1.241), reflecting a concentration of higher scores. Self-Management followed with a mean of 24.373, showing strong emotional regulation capabilities among the participants. Empathy (mean = 21.603) and Self-Awareness (mean = 21.114) demonstrated moderate levels, indicating students' ability to recognize their own emotions and understand those of others. Social Awareness (mean = 20.724) and Problem-Solving (mean = 20.977) exhibited slightly lower scores but remained consistent contributors to overall EI. The negative skewness and positive kurtosis values across all factors suggest a general tendency for higher-than-average scores among the participants, underscoring a robust level of EI in the sample population.

Table 2
Description of Independent Variable EI

Factors of EI	Mean	Standard deviation	Excess kurtosis	Skewness
Self-Awareness	21.114	3.422	1.86	-1.176
Self-management	24.373	3.87	0.616	-0.704
Social-Awareness	20.724	3.837	0.673	-0.939
Relationship-management	33.63	5.511	1.905	-1.241
Empathy	21.603	3.284	1.137	-1.127
Problem-Solving	20.977	3.151	1.927	-1.34

This figure represents a structural equation model (SEM) assessing EI and its dimensions using PLS-SEM. The central construct, EI, has a path coefficient of 0.701, indicating effective measurement.

EI is divided into four dimensions: Self-Awareness, Self-Management, Relationship Management, and Empathy. Self-Awareness has loadings from 0.851 to 0.928, with a path coefficient of 0.030 to EI. Self-Management, with loadings from 0.330 to 0.770, shows a path coefficient of -0.145 to EI. Relationship Management has loadings from 0.568 to 0.819 and a strong positive path coefficient of 1.019, indicating it is the most influential dimension for EI. Empathy, with loadings from 0.675 to 0.795, has a path coefficient of -0.196 to EI.

The outcome variable Performance Satisfaction (PS) shows loadings from 0.681 to 0.839, with a negligible path coefficient of 0.006 to EI, suggesting minimal direct influence.

The model overall shows strong reliability among constructs.

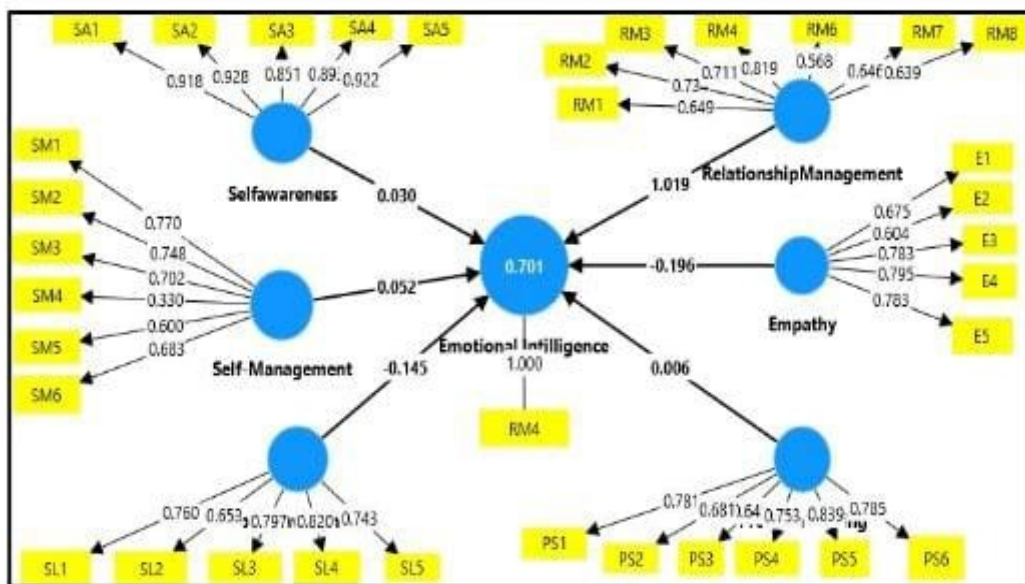


Figure 1: Assessing EI and its dimensions (PLS-SEM)

The structural path analysis confirmed a significant positive relationship between EI and AP. The path coefficient ($\beta = 0.502$) indicates a strong predictive impact of EI on AP, while the p-value (0.033) and t-statistic (2.133) confirms the effect of statistical significance (see Table 3). These results validate the hypothesis that higher levels of EI among students enhance their ability to succeed academically.

Table 3
Path Co-efficient and Effect of EI and AP

Path	(β)	p-value	T-stat	Significance
Emotional Intelligence -> Academic Performance	0.502	0.033	2.133	Significant

The present study delves into the influence of EI on students' Academic Performance (AP) at the university level, offering a nuanced understanding of how EI contributes to academic success in the context of Pakistani higher education. The studies emphasize on the importance of EI in improving students' capacity to cope with academic demands, modulate emotions and sustain attention to support learning environment. The findings confirmed that the two indexes have a positive correlation proving the assumption that the students with high EI level have better possibilities to cope with stress, to stay motivated, and to construct interpersonal relationships. Habits like self-identity, practical affect regulation, theory of mind, and social communication skills turned out to be important that helped students to cope with academic stress and to interact with peers and educators. They not only help students to succeed in the academic pursuits but also enable them to handle various problems and issues in their lives and future.

Moreover, this study points out that EI must be integrated into the learning process and other activities. Schools and colleges should be aware of the possibilities of improving learning outcomes through EI-related approaches. For example, creating connections between the school curriculum and such theories as emotional and social learning, providing students with special classes on learning how to regulate their emotions, and teaching educators to use emotionally intelligent approaches in their work can help students improve their performance. Such programs do not only foster academic achievements but also nurture the students' personality, preparing them for the future career path.

As such, the study points to some implications for educational policymakers. Thus, enhancing EI as the key component of institutional approaches can contribute to the improvement of learning climate. EI-enhancing activities implemented in teacher training, curriculum development, and student support systems contribute to the academic and psychological development of students, promoting empathy, cooperation, and success.

Conclusion

In conclusion, in a way the evidence presented in the study is very strong proving the relationship between EI and AP and its importance in developing students' academic success. According to the study, the results imply that students with high EI faculties are in a better place to deal with daily academic challenges and issues as well as navigate their way to accomplishment.

Future research needs to examine how the relationship between EI and AP develops over time, how socio-demographic factors affect the relationship, and whether EI interventions are beneficial when implemented in different educational settings. Development of these areas will help to enhance the understanding of the role of EI in learning and Academic success and design of learning environment that supports students' academic and emotional success. This fresh viewpoint should be viewed as the crucial foundation of many contemporary educational paradigms that involve EI.

Recommendations

Universities should integrate EI training into their curricular, focusing on developing self-awareness, self-management, empathy and relationship-management to enhance students' emotional and academic capabilities. Institution should also provide support through workshops, counseling services, and peer mentoring to address students' emotional needs and promote resilience. Furthermore, longitudinal research should be encouraged to assess the long term effects of EI on academic outcomes, guiding evidence-based policies for embedding EI in institutional strategies for holistic student development.

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