"The nexus between emotional intelligence and academic performance"

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BUSINESS PERSPECTIVES

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THE NEXUS BETWEEN EMOTIONAL INTELLIGENCE AND ACADEMIC PERFORMANCE

Abstract

This paper attempts to understand how emotional intelligence (EI) can affect students' academic performance by investigating the relationship between EI and student performance. A structured questionnaire comprising 25 questions was developed on a five-point Likert scale employing the five components of EI stated by Daniel Goleman. The five elements are self-analysis, self-control, self-motivation, empathy, and social skills. 350 MBA students from premier institutes in Warangal, India, were taken as a sample through a convenience sampling technique. Correlation analysis was performed amongst students' EI and their cumulative grade point average (CGPA). The coefficient value obtained showed a minimal linear relationship between EI and student performance. For further analysis, students were segregated gender-wise, male and female, and then a correlation was performed. In the case of female students, a negative relationship is exhibited between EI and performance. In contrast, in the case of male students, a positive relationship is exhibited that is higher than the overall coefficient. Moreover, correlation is applied to each component separately to identify which of the five components has higher linear relationship. The findings concluded that self-control and empathy followed by self-motivation had linear relationship, especially in the case of male students. Finally, it was difficult to correlate the EI of female students with their performance.

Keywords	emotional intelligence, student performance, academic performance, correlation, linear relationship
JEL Classification	M12, M19

INTRODUCTION

In recent years, a growing group of psychologists has concluded that the old concept of IQ (intelligent quotient), which is used to predict the academic performance of students, has been dominated by the concept of emotional intelligence, which is called emotional quotient or EI. EI deals with how an individual can understand and manage their emotions. Many studies were conducted to examine the impact of EI on students' performance in the medical sciences (Chew et al., 2013), information technology, and management in Malaysia, and teachers' performance (Naqvi et al., 2016). Khan (2019) researched EI and IQ's impact on business students in Saudi Arabia and concluded that students must have more emotional values than cognitive. Thus, these EI will make them more successful in their careers and academic life.

Baron-Cohen et al. (2003) at Cambridge University mentioned that the female brain works high in empathy and is not good at systems analysis. In comparison, the male brain is good at systems thinking and works low at emotional empathy. One of the factors that affect EI is gender. This can be due to social or biological factors, or even both. Females have greater EI than males (Ryff et al., 2001; Singh, 2006). Petrides and Furnham (2000) explained that social activities are mas-

culine or feminine. Some traits that are present exclusively for males and females are assertiveness and empathy, respectively. Siegling et al. (2015) studied the differences in EI and observed that they vary between males and females in many geographic locations of the world.

In the Indian context, the impact of EI on students' academic performance is dynamic and includes discrete EI components. Therefore, this is an emerging topic, which has been investigated in EI empirical papers in other countries like Malaysia, Pakistan, Sri Lanka, and many others. Moreover, the extant literature also identified a significant relationship between EI and student performance. However, few papers also discussed the impact of EI on demographic variables. In particular, as business students are future entrepreneurs and business leaders, it is imperative to understand the effect and relationship of EI on business students' academic performance.

1. LITERATURE REVIEW AND HYPOTHESES

Goleman (1998), a well-known behavioral scientist, explained how the brain is responsible for all emotions and how it gets tuned by its memory of experiences to exhibit emotions. Therefore, Goleman (1995) says that people have to train children to control their emotions for productivity, even in school. So that it will help them to avoid anti-social behavior and increase social behavior by which they can improve their academic score. The skills involved in EI, stated by Goleman (2001), are self-analysis, self-control, self-motivation, empathy, and social skills.

Self-analysis is the ability to recognize and understand one's emotions to bridge the gap related to emotions. To do this, people should monitor themselves continuously. Those who know their strengths and limitations can open their minds to new information and experiences. Ciarrochi et al. (2001) stated that students with healthy emotions learn effectively. Self-knowingness keeps the student motivated all the time, and those who lack self-knowingness lack internal motivation by which they cannot succeed and are low in academic performance.

Self-control is all about expressing one's emotions appropriately; by doing so, one can be good at conflict management and have a disciplined life. Corno and Mandinach (1983) and Rohrkemper (1985) mentioned that self-control of behavior and cognition are vital in learning and academic performance. Moreover, Dweck et al. (1995) mentioned that students having control over their emotions could achieve their goals. Shoda et al.

(1990) stated that children aged four showed good academic and social skills by controlling their impulse of action.

Self-motivation talks about intrinsic motivation, which is beyond the motivation caused by external factors. Students try to fulfill their dreams and goals by setting their objectives and motives. In addition, they have a high need for achievement, are always search for ways to do better, and will take the initiative to perform tasks. The self-motivation variable of EI is essential in motivating students to learn more and engage in teaching activities (Deese, 1952). Tella (2007) and Sikhwari (2014) mentioned that self-motivation has a significant relationship with students' academic performance.

Empathy is understanding how others feel, considering them accordingly, and acting. It involves responses to people based on this information and being sensitive to the things happening around them. Chow (2006) and Cooper (2010) concluded that students' sensibility has high linearity with academic motivation, which helps increase their academic performance.

Social skills is the ability to interact well with others. One can benefit from it by building relations and connections with others by sharing information and knowledge. Some critical skills required for it are listening skills, communication skills, initiating themselves to build relationships, and trying to make some impact among the people around. Less socially moving students have low academic performance (Deming, 2017; Sulzer-Azaroff, 1986; Ciarrochi et al., 2001).

Gilbert (2011) researched the millennial generation, also called generation Y (people born between 1982–2000). This generation is required policies to engage them in the workplace. Therefore, six things should be considered in their case. First, there exists a generation gap that should be considered. Dealing with a generation Y workforce, a good strategy is not enough; one must also manage their performance. This will be their driver, and the biggest threat is the frequent engagement of employer reputation. Da Costa (2018) concluded that the millennial workforce requires leaders, not managers. They cannot work under dictatorship management; they have a high need for achievement and need of power that is thriving them to improve themselves at all times. Therefore, they need proper space to explore themselves in the workplace by which they can improve their productivity. Finally, they want mentors who can guide them and should inspire them and encourage them all time.

In addition, this generation is highly focused on the results rather than the process or method followed. They are concentrating on profits and are more bothered about societal work. Thus, this will benefit companies by increasing the complexity of the workplace. Khan (2019) observed that non-cognitive and cognitive learning processes are developed more during graduation. Parker et al. (2004) found that successful students scored high EI components like interpersonal ability, stress management, and adaptability than unsuccessful students.

Rode et al. (2007) mentioned two reasons to relate EI with academic performance, one is student performance's uncertainty, and the other reason was that academic performance requires self-analysis and self-management. A study suggests that EI training should be given from secondary education due to its high linearity with academic performance (Holt, 2010). Wijekoon et al. (2017) asserted that EI and academic performance are highly related among medical students in Sri Lanka, and EI and academic performance are higher in female students than male students. Nawaz (2015) found a significant relationship between EI and employee competence. Parker et al. (2004), Abdullah et al. (2004), and Panboli and Gopu (2011) identified a positive relationship between EI and academic performance. Studies found that EI helps teach-

ers reduce workplace stress (Sekreter, 2019). Many studies also stated that those with a high score in emotional quotient have better health and can manage their performance by overcoming stress (Slaski & Cartwright, 2002; Durán et al., 2004; C. Darolia & S. Darolia, 2005; Abraham, 2000). Conflict handling is well done by individuals having high EI (Srinivasan & George, 2005; Jordan & Troth, 2004; Godse & Thingujam, 2010).

The theoretical background has developed some assumptions among the variables of the study. The constructs in the model were adapted from various past studies, as discussed above. The statistical analysis among university graduates showed that the correlation between EI and academic performance demonstrated that students who possess self-motivation, self-awareness, empathy, and emotional management had good academic performance (Khan, 2019). Further, those with social skills can communicate well with others and drive themselves toward achieving better results. Past studies did not address the role of demographic factors in understanding the impact of EI on academic performance. Therefore, this study is conducted on postgraduate business students in their final year, separately for males and females. The paper developed the following hypotheses:

H1:   There is a strong positive association between self-analysis and academic performance.

H2:   There is a strong positive association between self-control and academic performance.

H3:   There is a strong positive association between self-motivation and academic performance.

H4:   There is a strong positive association between empathy and academic performance.

H5:   There is a strong positive association between social skills and academic performance.

H6:   There is a strong positive association between the EI components of female students and their performance.

H7:   There is a strong positive association between the EI components of male students and their performance.
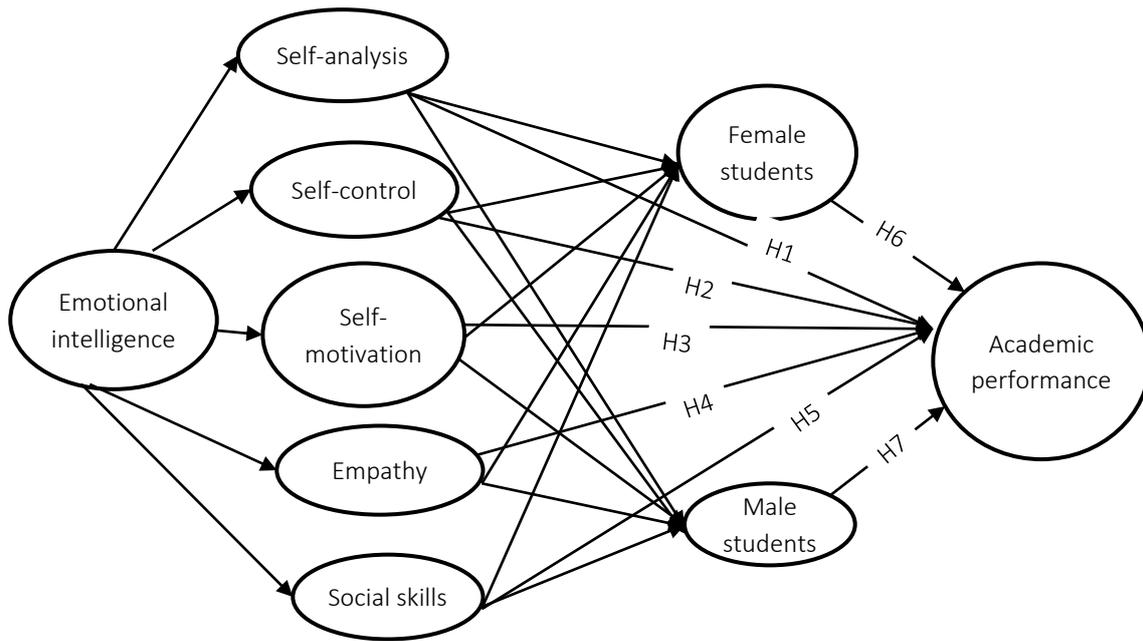
Figure 1. Conceptual framework of EI components and academic performance

Therefore, the objectives of the study are:

1. To identify the correlation between EI and students' academic performance.

2. To examine the correlation between EI and performance of male and female students.

3. To analyze the components of EI, for which it has a high impact on academic performance or high linearity with students' academic performance.

2. METHODOLOGY

The study used primary data collected using a questionnaire comprising 25 questions (these questions were related to the five components of EI, which were stated by Goleman (2001). Therefore, each student has the possibility to get a maximum score of 125 points. 350 students were taken as a sample size from a premier institute through the convenience sampling technique. Moreover, a Likert's five rating scale is used in the questionnaire, where 1 – strongly disagree, 2 – disagree, 3 – neutral, 4 – agree, and 5 – strongly agree. The five elements are self-analysis, self-control, self-motivation, empathy, and social skills. Regression analysis is performed between EI of students and

their cumulative grade point average (CGPA). For further analysis, students were segregated gender-wise, male and female, and then the correlation was performed in excel. To know which component has a more linear relationship with student performance, correlation is done separately between each component and the CGPA of students. The study was conducted on postgraduate students from the management department aged between 23-25 years; they belong to the millennial workforce, so the EI of these students will help to predict their performance as a workforce.

EI score is calculated based on five components of EI. Then, the analysis was done to determine the linearity of their EI with their academic performance (CGPA). A separate analysis examined the relationship between male and female students with EI. The study considered only final year MBA students from premier institutes of Warangal, India, because most of the sample will enter the corporate world after their education. Therefore, this helps students and employers, who are looking for the right candidate for their company.

Previously, employers used to check only the IQ levels of the candidate for screening the candidate by conducting an aptitude test in the initial round. However, as literature shows, the world is dynamic, especially in the work environment that

creates lots of stress for the employee to overcome and withstand. Therefore, one needs self-motivation and self-control, which are addressed as the components of EI. Thus, by finding the linearity of EI and academic performance, it is proposed to address the student fraternity to improve their EI values for a bright future and employers to consider EI and IQ values to screen the right candidate for their companies.

3. RESULTS

The data were collected from 350 students through questionnaires and tabulated in excel. Correlation and regression analyses were then performed. Table 1 represents the different correlation coefficient values for each component of EI, gender-wise and overall.

Table 1. Correlation coefficients of EI elements concerning academic performance (CGPA)

Source: Data analysis.

Description	SA	SC	SM	E	SS
Overall	−0.173	0.269	0.095	0.164	0.084
Female	−0.295	0.021	0.063	−0.044	0.153
Male	0.040	0.308	0.029	0.394	−0.042

Note: SA – Self-Analysis, SC – Self-Control, SM – Self-Motivation, E – Empathy, SS – Social Skills.

The consolidated correlation coefficient of EI and students' performance is 0.150. For female students, it is −0.0160, and for male students, it is 0.216 (Figure 2). The linear relationships between EI and student performance are represented in Figure 3 and Figure 4, gender-wise.

The average EI score of female students is 96.13 out of 125, which is compared to male students is high.
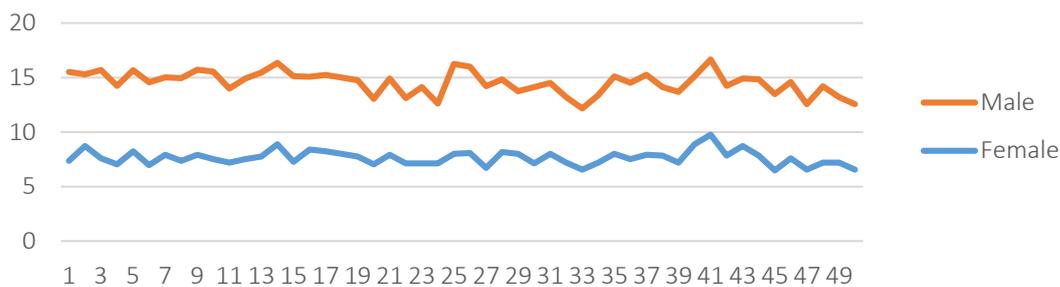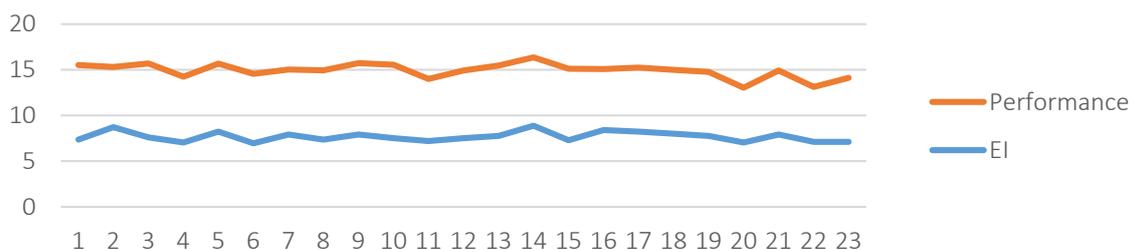

Figure 2. Correlation of EI (total students)

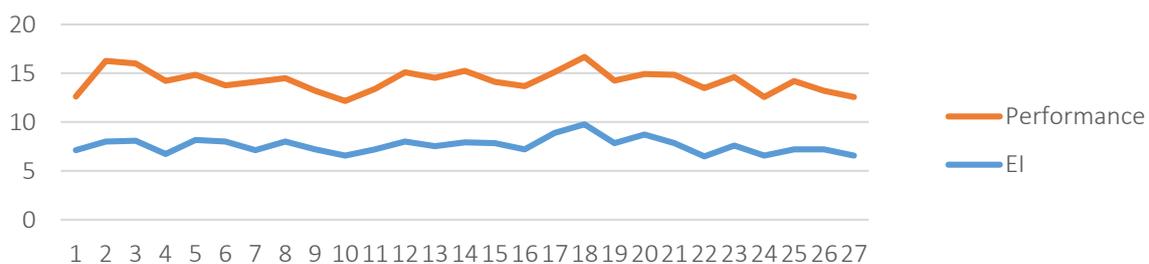**Figure 3.** Correlation between EI of female students and their performance

Figure 4. Correlation between EI of male students and their performance
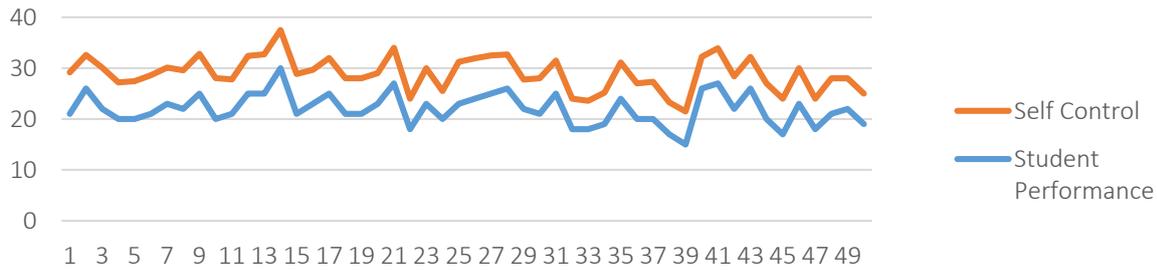
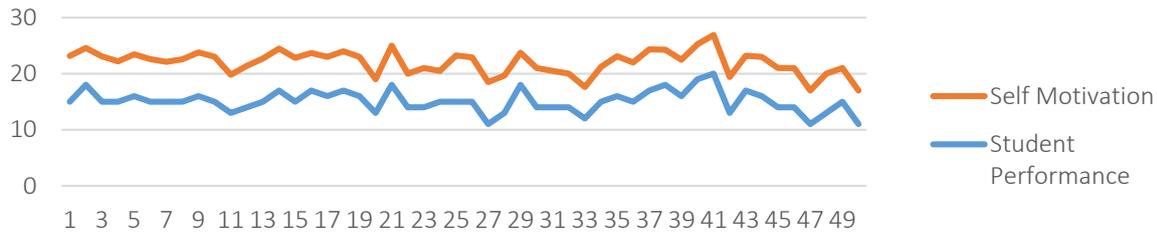**Figure 5.** Correlation between self-control and students' performance

Figure 6. Correlation between self-motivation and students' performance

However, the correlation coefficient is –0.0160, which is less than that of male students.

The average EI score of male students is 92.76 out of 125, which is compared to female students is low. However, the correlation coefficient is 0.359, higher than female students. Graphs are plotted separately for each component of EI with students' performance to know which component has higher linearity. Among all the components that have high linearity in the case of male and female students, there are self-control and self-motivation (Figures 4 and 5).

The correlation coefficient observed for the self-control component with students' perfor-

mance is 0.368. Next, the correlation coefficient observed for female students' performance with self-control is 0.0216, and the correlation coefficient observed for male students' performance and self-regulation is 0.415.

The correlation coefficient observed for the self-motivation component with students' performance is 0.2001. Next, the correlation coefficient observed for female students' performance with the self-motivation component is 0.0634, and the correlation coefficient observed for male students' performance with the self-motivation component is 0.932. For further analysis, regression analysis is done in excel. Table 2 shows the regression analy-

Table 2. Summary output of regression combined for male and female students

Source: Data analysis.

Summary output	Combined regression analysis
Regression statistics	Model summary values
Multiple R	0.439
R Square	0.193
Adjusted R Square	0.165
Standard Error	0.64
Observations	350.00

Table 3. ANOVA results

Source: Data analysis.

ANOVA	df	Sum of squares	Mean square	F	Significance F
Regression	5	10.723	2.1446	4.9072	0.0004
Residual	144	62.932	0.4370	–	–
Total	149	73.655	–	–	–

Table 4. Correlation coefficients of EI components with academic performance

Description	Coefficients	Standard error	t-stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	7.000	0.715	9.790	1.158	5.586	8.413	5.586	8.413
SA	−0.089	0.027	−3.242	0.001	−0.144	−0.035	−0.144	−0.035
SC	0.064	0.019	3.377	0.000	0.026	0.102	0.026	0.102
SM	0.024	0.038	0.629	0.530	−0.052	0.100	−0.052	0.100
E	0.031	0.027	1.140	0.255	−0.022	0.084	−0.022	0.084
SS	−0.010	0.026	−0.397	0.691	−0.063	0.042	−0.063	0.042

Table 5. Hypotheses testing results

No.	Hypothesis	Beta coefficient	Significant (P < 0.05)	Decision
1	*H1:* There is a strong positive association between self-analysis and academic performance.	−0.0896	0.00147	Accepted
2	*H2:* There is a strong positive association between self-control and academic performance.	0.0649	0.0009	Accepted
3	*H3:* There is a strong positive association between self-motivation and academic performance.	0.0243	0.5300	Rejected
4	*H4:* There is a strong positive association between empathy and academic performance.	0.0310	0.255	Rejected
5	*H5:* There is a strong positive association between social skills and academic performance.	−0.0107	0.691	Rejected
6	*H6:* There is a strong positive association between EI components of female students and their performance.	−0.0014	0.8958	Rejected
7	*H7:* There is a strong positive association between EI components of male students and their performance.	0.0325	0.0009	Accepted

sis results. R-square is 0.19, by which it is interpreted that it is only 19% of students' academic performance depends on EI components.

Regression analysis was done separately on the components of EI for male and female students. It was observed that for males, only self-control and empathy strongly influenced performance. The R-square value is 0.314, which means only 31% of impact can be seen on students' academic performance by EI components. For females, components that robustly affect their academic performance are self-analysis, empathy, and social skills. The R-square value for female students is 0.22,

Table 6. Male and female student's performance with EI components

Regression statistics	Male	Female
Multiple R	0.561	0.477
R Square	0.314	0.227
Adjusted R Square	0.269	0.166
Standard Error	0.575	0.534
Observations	181	169

Table 7. Coefficient and p-values of EI components separately for male and female students

Description	Coefficients (male)	P-value	Result	Coefficients (female)	P-value	Result
Intercept	5.045	2.897	−	9.994	6.36	−
Self-analysis	−0.001	0.970	Rejected	−0.171	0.000	Accepted
Self-control	0.061	0.011	Accepted	0.028	0.342	Rejected
Self-motivation	−0.038	0.396	Rejected	−0.040	0.585	Rejected
Empathy	0.126	0.000	Accepted	−0.081	0.020	Accepted
Social skills	−0.053	0.077	Rejected	0.123	0.005	Accepted

which is having 22% impact on academic performance. The table 3 demonstrates the ANOVA results which estimates the overall fit among the variables. Table 4 presents the correlation coefficient values of EI components with academic performance. It was conducted to determine the individual relationship between EI components and academic performance and shows which EI component is strongly related to academic performance. As mentioned in the study, separate regression analysis was conducted among male and female, table 6 revealed the segregated regression model summary of male and female student's performance with EI components.

4. DISCUSSION

The coefficient value (0.150) obtained showed a minimal linear relationship between EI and student performance. In the case of female students, a negative relationship was exhibited between EI and performance (–0.016), whereas in the case of male students, a positive relationship (0.216) was exhibited, which is higher than the overall coefficient (0.150). It is also observed that self-control and empathy followed by self-motivation have linear relationships, especially in the case of male students. The correlation between the EI of female students and their performance was found to be insignificant. Table 5 presents the overall results of the hypotheses testing. Therefore, *H1*, *H2*, and *H7* were supported, and *H3*, *H4*, *H5*, and *H6* were rejected. Table 7 demonstrates the gender-wise impact of EI components separately for male and female students. It was found that male students have remarkable self-control and empathy, and female students have intense self-analysis, empathy, and social skills.

Though the previous studies emphasized various demographic factors of students (both from public and private universities, and graduation students), the findings of this study were consistent with those studies, which explored the impact of EI variables with a substantial positive relationship on academic performance, specifically for private university students. The IQ of public university students is not significant for their academic performance (Khan, 2019; Jamjoom, 2012; Yahaya et al., 2012). However, in the current study, the correlation coefficient has demonstrated a comparatively weak relationship with academic performance.

CONCLUSION

The current decade follows the trend of hiring the millennial workforce. The millennial workforce needs to be mentored, but it requires dynamic leaders. Therefore, EI is one concept that helps this generation to know itself accurately and develop itself to monitor own actions. Therefore, the current study identified the relationship between EI and students' academic performance and also analyzed such relationships separately for male and female students.

All the five components discussed earlier are useful for self-development: self-analysis, self-control, self-motivation, empathy, and social skills. Among these, as per the study, students' performance can increase by concentrating on the components of self-control and self-motivation followed by empathy because they exhibit high to low linearity in the same order. Moreover, social skills are more valued among the students, but they cannot use them properly, so they are not getting benefited in their academic life. Social skills should improve individuals to share information and knowledge with others.

EI score was high for females, but it is negatively associated with their performance. The findings of many studies conducted in various countries (United States, India, Iran, and Sri Lanka) were also consistent with this study, which found that the score of EI for females is more than for males despite any educational background or age group. Therefore, the present study concludes that though the females have high IQ and EI scores, their performance was not considerably predictable. In contrast, the performance of males was predicted even though their EI score was comparatively less than that of the female students.

Finally, the study concluded that with evidence from literature and primary analysis among students, EI showed a robust association with academic performance; especially, it is more evident in male students. The study contributes to the employers screening the suitable candidates for the company by including EI components tests with IQ tests like aptitude. It provides deep insights on how much students have to improve their EI and its usage in academic performance. Further research can explore the diversified areas of students in various countries to raise more research questions related to the effect of EI components on academic performance.

AUTHOR CONTRIBUTIONS

Conceptualization: Porika Ramlal, Sania Khan.
Data curation: Kappala Manjusha.
Formal analysis: Kappala Manjusha.
Investigation: Kappala Manjusha.
Methodology: Porika Ramlal, Kappala Manjusha, Sania Khan.
Project administration: Porika Ramlal.
Resources: Sania Khan.
Supervision: Porika Ramlal.
Writing – original draft: Kappala Manjusha.
Writing – review & editing: Porika Ramlal, Sania Khan.

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