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A study of Impact of Emotional Intelligence on Academic Performance of Undergraduate Students in Navi Mumbai Region

Rikhi Yadav[1] and Dr. Mona Sinha[2]

[1]Assistant Professor, Bharati Vidyapeeth (Deemed to be University) Department of Management Studies (Off Campus) Navi Mumbai

[2]Professor, Bharati Vidyapeeth (Deemed to be University) Department of Management Studies (Off Campus) Navi Mumbai

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ABSTRACT

This study explores the influence of Emotional Intelligence (EI) on the academic performance of undergraduate students in the Navi Mumbai region. Emotional Intelligence, encompassing self-awareness, self-regulation, motivation, empathy, and social skills, is increasingly recognized as a key factor contributing to academic success. The research involved a sample of undergraduate students from various disciplines, using a standardized EI assessment tool alongside academic performance indicators such as GPA and semester results. Statistical analysis revealed a significant positive correlation between high levels of EI and improved academic outcomes, suggesting that students who effectively manage emotions and interpersonal relationships tend to perform better academically. The findings highlight the importance of integrating emotional learning into higher education frameworks. By fostering emotional intelligence through structured programs and interventions, educational institutions in Navi Mumbai can enhance students' learning experiences and overall performance. This research contributes to the growing body of evidence supporting EI as a vital component in student development and calls for educational policymakers to consider EI training as part of the undergraduate curriculum. Further studies may explore longitudinal impacts and how specific EI components influence academic achievements over time.

INTRODUCTION

Emotional Intelligence (EI) refers to the ability to recognize, understand, and manage one's own emotions, as well as the capacity to recognize, understand, and influence the emotions of others. It encompasses five key components: self-awareness (understanding one's emotions and their impact), self-regulation (managing emotions in healthy ways), motivation (using emotions to achieve goals), empathy (recognizing and understanding the emotions of others), and social skills (managing relationships effectively). EI plays a crucial role in personal and professional success, as it influences how individuals handle stress, communicate, resolve conflicts, and build relationships. In educational settings, EI is vital for coping with academic pressures, enhancing learning, and fostering positive interactions with peers and instructors.

Impact of Emotional Intelligence on Academic Performance of Undergraduate Students

The impact of Emotional Intelligence (EI) on academic performance is increasingly recognized in educational research. In the context of undergraduate students, EI plays a significant role in shaping how students manage their emotions, interactions with peers and instructors, and their overall learning experience. Students with high EI are better equipped to navigate academic stress, regulate negative emotions like anxiety or frustration, and stay motivated despite challenges. This emotional resilience directly contributes to improved focus, persistence, and academic performance, as emotionally intelligent students are able to maintain a balanced mental state even in demanding academic environments.

Emotional Intelligence also enhances social and interpersonal skills, which are crucial for collaborative learning, group projects, and effective communication with professors. Empathy, a key component of EI, allows students to better understand and connect with others, fostering positive relationships within the academic community. These social skills not only create a supportive learning environment but also encourage active participation in class discussions and collaborative activities, further contributing to academic success. Moreover, students with high EI are more likely to seek help when needed, thus benefiting from a wider range of support systems available in the educational setting.

In addition to interpersonal benefits, EI influences students' internal motivation and self-regulation. Emotionally intelligent students tend to set realistic goals, stay committed to achieving them, and exhibit self-discipline in their academic pursuits. They are more likely to manage their time effectively, remain focused on tasks, and bounce back from setbacks. This ability to stay motivated and regulate emotions such as frustration or discouragement significantly enhances their academic performance, leading to higher grades and a more positive academic experience overall.

The academic performance of students can also be affected by their capacity to cope with the emotional demands of academic life. For instance, students with lower EI may struggle with stress management, leading to burnout or a decline in academic performance. Conversely, students who possess well-developed EI

skills are better equipped to handle stress, regulate emotions under pressure, and maintain a positive attitude toward learning. Therefore, the integration of EI development into educational curricula could be a strategic approach to improving academic outcomes and promoting holistic student development.

Literature Review:

1. **Sanchez-Alvarez, et.al (2023).** The meta-analysis found a moderate positive correlation between EI and academic performance. It indicated that EI explains a significant proportion of academic success, particularly in Eastern cultures. The study emphasizes the importance of EI as a predictor of academic outcomes. It suggests that EI-based interventions could enhance student performance. Further research is needed to explore cultural differences in EI's impact.
2. **MacCann, C., et.al (2020).** The study found that Emotional Intelligence predicts academic performance, with ability EI being a stronger predictor than self-report EI. EI contributes to regulating emotions and improving social interactions, which in turn impacts learning. The meta-analysis revealed that EI explains additional variance in academic success. Self-regulation and motivation were key components enhancing student performance. The results advocate for the inclusion of EI development in educational frameworks.
3. **Sanchez-Alvarez, N., et.al (2020).** The analysis found a significant positive relationship between EI and academic performance among secondary education students. Higher EI levels, particularly in emotional regulation and social skills, correlate with better academic outcomes. Ability EI was found to be a stronger predictor compared to self-reported EI. This suggests the importance of fostering EI in educational settings. The study highlights the potential for EI training to improve student achievement.
4. **Sahinidis, A. G., et.al (2021).** This empirical study revealed a significant relationship between EI and academic performance among university students. Students with higher EI exhibited better emotional regulation, social skills, and resilience under academic pressure. Gender differences were noted, with female students showing higher emotional awareness. The study suggests that EI should be integrated into university curricula to improve student performance. It emphasizes the need for targeted EI interventions.
5. **Tirajaya, J. R., et.al (2024).** The review found limited studies on EI's impact on academic performance in college students, indicating a gap in research. While some studies suggested positive correlations, more empirical evidence is needed to establish definitive conclusions. The study calls for further investigation into how EI can be harnessed to improve academic outcomes. It also suggests exploring diverse educational contexts for more comprehensive findings. The importance of EI in education is acknowledged but under-researched.
6. **Singh, N., et.al (2020).** The systematic review found a positive link between EI and academic performance among medical, dental, and nursing students. EI influences communication skills, clinical competencies, and academic achievements. The study highlighted that EI helps students manage stress and emotions, which are crucial in healthcare education. It found that developing EI could lead to better learning outcomes and interpersonal relationships in academic settings. The study calls for integrating EI training into healthcare curricula.
7. **Alqahtani, M. M. (2022).** The study demonstrated a positive correlation between EI and academic achievement among nursing students. EI, particularly emotional regulation and empathy, was found to improve student performance in both academic and clinical settings. Students with higher EI displayed better stress management and communication skills. The results suggest that EI contributes significantly to academic success in healthcare education. The study recommends incorporating EI development programs in nursing curricula.
8. **Agrawal, M., & Sk, N. (2017).** The study concluded that EI has a significant positive effect on academic performance, particularly in managing academic stress and maintaining motivation. It found that emotionally intelligent students excel in both individual and group learning settings. The study suggests that EI training can help improve academic outcomes by fostering emotional regulation and interpersonal skills. The authors advocate for the inclusion of EI-focused workshops and programs in educational systems. They emphasized the potential of EI in enhancing overall student success.

Research Gap: The research on Emotional Intelligence (EI) and academic performance, while extensive, still reveals several gaps. While most studies show a positive relationship, there is a lack of consistency in the methodologies used, particularly in terms of how EI is measured (ability EI vs. self-reported EI). Moreover, while cultural differences have been noted, further investigation is needed to understand how EI influences academic outcomes across different cultural contexts, especially in non-Western settings. Additionally, most research focuses on university-level students or specific fields like healthcare, with limited exploration into the impact of EI on students in other disciplines or at earlier educational stages. There is also a need for longitudinal studies that can track the long-term effects of EI training on academic success, as well as a deeper exploration of how EI interacts with other factors such as academic motivation and social environment.

Research methodology

The present study adopted a quantitative research approach to examine the impact and relationship of Emotional Intelligence on the Academic Performance of undergraduate students in the Navi Mumbai region. A structured questionnaire was used to collect primary data from a sample of 150 students across various fields of study (Commerce, Arts, and Science) and academic years (First, Second, and Third Year). The sampling method employed was convenient sampling. Data analysis was conducted using statistical techniques such as ANOVA to test differences in academic performance based on Emotional Intelligence and Pearson's correlation to examine the strength and significance of the relationship between the two variables.

Demographic Factor

Sr No.	Particular	Category	Frequency	Percent
1	Gender	Male	82	54.7
		Female	68	45.3
2	Field of the Study	Commerce	63	42.0
		Arts	41	27.3
		Science	46	30.7
3	Year of the Study	First Years	30	20.0
		Second Years	68	45.3
		Third Years	52	34.7
4	Academic Performance (Grade)	Pass	7	4.7
		C grade	14	9.3
		B grade	21	14.0
		B+ grade	39	26.0
		A grade	24	16.0
		A+ grade	18	12.0
		O grade	27	18.0

The frequency distribution of the sample shows that out of 150 undergraduate students, 54.7% were male (82 students) and 45.3% were female (68 students). In terms of the field of study, 42% (63 students) belonged to Commerce, 30.7% (46 students) to science, and 27.3% (41 students) to Arts. Regarding the year of study, the majority were Second Year students (45.3%, 68 students), followed by Third Year students (34.7%, 52 students) and First Year students (20%, 30 students). Academic grades showed that 26% (39 students) achieved a B+ grade, 18% (27 students) an O grade, 16% (24 students) an A grade, 14% (21 students) a B grade, 12% (18 students) an A+ grade, 9.3% (14 students) a C grade, and 4.7% (7 students) received a Pass grade.

Data Analysis

Objective and Hypothesis

Objective 1 To study the impact of Emotional Intelligence on the Academic Performance of Undergraduate Students in the Navi Mumbai Region.

Null Hypothesis H_{01}: There is no significant difference in Emotional Intelligence on the Academic Performance of Undergraduate Students in the Navi Mumbai Region.

Alternate Hypothesis H_{11}: There is a significant difference in Emotional Intelligence on the Academic Performance of Undergraduate Students in the Navi Mumbai Region.

To Study the above Null hypothesis ANOVA test is obtained and f-test is applied and shown below.

ANOVA					
Emotional Intelligence					
	Sum of Squares	df	Mean Square	F	P-value
Between Groups	17758.119	6	2959.687	281.896	.000
Within Groups	1501.389	143	10.499		
Total	19259.508	149			

Interpretation: The above results indicate that calculated p-value is 0.000. It is less than 0.05. Therefore, f-test is rejected. Hence Null hypothesis is rejected and Alternate hypothesis is accepted.

Conclusion: There is a significant difference in Emotional Intelligence on the Academic Performance of Undergraduate Students in the Navi Mumbai Region.

Findings: To understand the findings of hypothesis, mean score of Emotional Intelligence on the Academic Performance of Undergraduate Students in the Navi Mumbai Region.

Report			
Emotional Intelligence			
Academic Performance (Grade)	Mean	N	Std. Deviation
Pass	48.38	7	2.138
C grade	53.90	14	1.630
B grade	60.63	21	2.092
B+ grade	65.88	39	1.426
A grade	71.22	24	1.569
A+ grade	76.67	18	1.601
O grade	86.81	27	6.721
Total	69.13	150	11.369

The academic performance report shows the mean scores, number of students (N), and standard deviations across different grade categories. Students with a "Pass" grade had a mean score of 48.38, while those with higher grades progressively achieved better averages, with "C" at 53.90, "B" at 60.63, "B+" at 65.88, "A" at 71.22, "A+" at 76.67, and "O" at 86.81, indicating a consistent improvement in scores with higher grades. The standard deviation is relatively low across most grades, suggesting consistent performance within each group, except for the "O" grade, which shows more variation (6.721). Overall, the total mean score across all 150 students is 69.13 with a standard deviation of 11.369, reflecting a moderately wide spread in overall academic performance.

Objective 2 To study the relationship between Emotional Intelligence and Academic Performance of Undergraduate Students in the Navi Mumbai Region.

Null Hypothesis H_{02}: There is no relationship between Emotional Intelligence and Academic Performance of Undergraduate Students in the Navi Mumbai Region.

Alternate Hypothesis H_{12}: There is a relationship between Emotional Intelligence and Academic Performance of Undergraduate Students in the Navi Mumbai Region.

The study the above Null hypothesis Correlation test is obtained and applied and shown below.

Correlations			
		Emotional Intelligence	Academic Performance (Grade)
Emotional Intelligence	Pearson Correlation	1	.954**
	P-value		.000
	N	150	150
Academic Performance (Grade)	Pearson Correlation	.954**	1
	P-value	.000	
	N	150	150
**. Correlation is significant at the 0.01 level (2-tailed).			

Interpretation: The above results indicate that calculated p-value is 0.000. It is less than 0.05. Therefore, correlation test is rejected. Hence Null hypothesis is rejected and Alternate hypothesis is accepted.

Conclusion: There is a relationship between Emotional Intelligence and Academic Performance of Undergraduate Students in the Navi Mumbai Region.

Findings: The correlation table shows a very strong positive relationship between Emotional Intelligence and Grade, with a Pearson correlation coefficient of 0.954, which is significant at the 0.01 level. This means that as academic performance improves, the grade achieved also improves, and the relationship between the two is statistically significant (p-value = 0.000). The high correlation suggests that grades are a very reliable indicator of overall academic performance among the 150 students studied.

Conclusion:

The study concludes that Emotional Intelligence has a significant impact on the Academic Performance of Undergraduate Students in the Navi Mumbai Region, as confirmed by the ANOVA test where the null hypothesis was rejected with a p-value of 0.000.

Additionally, the correlation analysis revealed a very strong positive relationship (r = 0.954, p < 0.01) between Emotional Intelligence and Academic Performance, indicating that students with higher Emotional Intelligence tend to achieve better academic outcomes. These findings highlight the crucial role Emotional Intelligence plays in enhancing academic success among undergraduate students.

Regression model-1

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.954[a]	.910	.910	.519
a. Predictors: (Constant), Academic Performance				

The model summary indicates a strong linear relationship between the predictor variable, Emotional Intelligence, and the dependent variable. The R value of 0.954 suggests a very high correlation between the observed and predicted values. The R Square value of 0.910 means that approximately 91% of the variance in the dependent variable is explained by Emotional Intelligence, indicating a very good model fit. The Adjusted R Square, which accounts for the number of predictors, remains the same at 0.910, confirming the model's robustness with just one predictor. The standard error of the estimate is 0.519, indicating that the average distance between the observed values and the regression line is reasonably small.

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	405.479	1	405.479	1503.473	.000[b]
	Residual	39.915	148	.270		
	Total	445.393	149			
a. Dependent Variable: 5. Grade						
b. Predictors: (Constant), Emotional Intelligence						

Above results indicates that p-value is 0.000. It is less than 0.05. It indicates that linear regression model is good to fit.

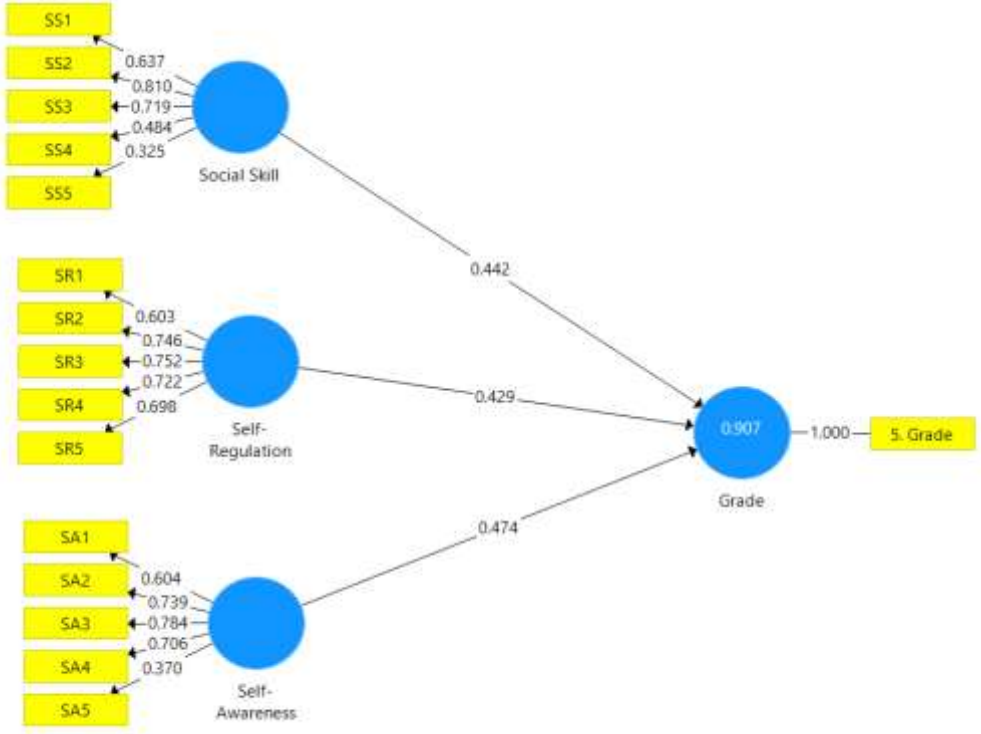
Coefficients[a]					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-5.557	.262		-21.199	.000
Emotional Intelligence (EI)	.145	.004	.954	38.775	.000
a. Dependent Variable: 5. Grade					

Above table indicate the values of coefficients and corresponding significance. According to p-value of the Grade it is observed that except variables has significant impact on Grade.

The mathematical equation to estimate the Grade is presented as follows:

Grade = -5.557 + 0.145*EI

SEM Model-1



Path Coefficient

	Grade
Self-Awareness	0.474
Self-Regulation	0.429
Social Skill	0.442

The path coefficients indicate the strength and direction of the relationships between each independent variable and the dependent variable (Grade). Among the emotional intelligence components, Self-Awareness has the strongest positive influence on academic grades with a coefficient of 0.474, followed closely by Social Skill at 0.442, and Self-Regulation at 0.429. All three factors positively contribute to academic performance, suggesting that higher levels of these emotional competencies are associated with better grades. The relatively close values also imply that all three traits are nearly equally important in predicting academic success.

Outer Loadings

	Grade	Self-Awareness	Self-Regulation	Social Skill
5. Grade	1.000			
SA1		0.604		
SA2		0.739		
SA3		0.784		
SA4		0.706		
SA5		0.370		
SR1			0.603	
SR2			0.746	
SR3			0.752	
SR4			0.722	
SR5			0.698	
SS1				0.637
SS2				0.810
SS3				0.719
SS4				0.484
SS5				0.325

The outer loadings represent the correlation between each observed item (indicator) and its corresponding latent construct. In this case, the constructs are Self-Awareness, Self-Regulation, and Social Skill, which contribute to the dependent variable, Grade. Most items show good loadings (generally ≥ 0.7 is considered strong), particularly SA3 (0.784), SR3 (0.752), and SS2 (0.810), indicating they are strong indicators of their respective constructs. Some items, like SA5 (0.370) and SS5 (0.325), have relatively low loadings, which may suggest weaker representation of the underlying construct and could be candidates for removal or revision to improve the model's measurement validity. Overall, the measurement model shows reasonable construct reliability, but refinement of certain indicators might enhance its robustness.

Outer Weightage

	Grade	Self-Awareness	Self-Regulation	Social Skill
5. Grade	1.000			
SA1		0.304		
SA2		0.342		
SA3		0.346		
SA4		0.291		
SA5		0.234		
SR1			0.251	
SR2			0.288	
SR3			0.278	
SR4			0.296	
SR5			0.302	
SS1				0.385
SS2				0.432
SS3				0.301
SS4				0.213

SS5				0.265

The outer weightages reflect the relative contribution of each observed variable to its corresponding latent construct in the context of a formative measurement model. Among the indicators for Self-Awareness, SA3 (0.346) and SA2 (0.342) contribute the most, while SA5 (0.234) contributes the least. Similarly, for Self-Regulation, SR5 (0.302) and SR4 (0.296) have the highest weightages, indicating they are the most influential indicators within that construct. For Social Skill, SS2 (0.432) and SS1 (0.385) are the most significant contributors. Lower weightages like SS4 (0.213) and SA5 (0.234) suggest these items have less influence and may be considered for revision or removal depending on theoretical justification. Overall, the model seems to identify clear key items for each construct, which helps prioritize the most impactful indicators.

CONCLUSION

The study conclusively demonstrates that Emotional Intelligence (EI) has a significant and positive impact on the Academic Performance of undergraduate students in the Navi Mumbai region. ANOVA and correlation analyses both confirmed the rejection of null hypotheses, with p-values of 0.000 indicating highly significant results. Regression analysis showed that 91% of the variance in grades could be explained by EI, and the SEM model further supported this with strong path coefficients for Self-Awareness (0.474), Social Skill (0.442), and Self-Regulation (0.429). The outer loadings and weightages highlighted key indicators within each EI component, suggesting areas for scale refinement. Overall, the findings underscore the critical role of Emotional Intelligence in driving academic success, with clear implications for educational interventions aimed at enhancing EI competencies among students.

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