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Research Article

Emotional Intelligence (EI) Spectrum: Comparing Undergraduate and Postgraduate Management Students

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ABSTRACT

Education plays a major role in the development of any country. Emotional Intelligence (EI) first arose in the 1990s as an ability-based construct similar to general intelligence. Management students' academic progress, interpersonal interactions and professional preparation are all influenced by their EI. However, the comparative understanding of EI skills at the undergraduate and postgraduate levels is still overlooked. The main objective of this research was to compare the EI spectrum of these two groups, focusing on core EI competencies such as self-awareness, empathy, self-regulation, motivation and social skills. This study employed a quantitative research methodology and included 100 management students from Greater Noida. The primary data was collected via a standardised questionnaire. Statistical tools such as mean, correlation, regression, ANOVA were utilised. The findings reveal that there is no significant difference in EI spectrum between undergraduate and postgraduate management students except for self-regulation. By addressing the unique developmental needs of management students, the findings will assist educators and policymakers in creating focused interventions to improve EI. These interventions can result in better academic performance, professional readiness and interpersonal skills, thereby producing future leaders who are well-rounded.

Keywords: Emotional Intelligence (EI), Undergraduate Students, Postgraduate Students, Management Education, Core EI Competencies.

Introduction:

In an increasingly complicated and interconnected world, the role of EI in academic and professional performance has received widespread acknowledgement, particularly in

management education. Daniel Goleman popularised the notion of EI in the 1990s. It refers to the ability to recognise, understand and manage one's own emotions. Decision-making, leadership and teamwork all rely heavily on EI. Management students, who aspire to be future company leaders, require strong EI skills to address the dynamic challenges of the corporate world.

While substantial research emphasises the importance of EI in higher education, a comparison analysis of EI levels across undergraduate and postgraduate management students is still lacking. Undergraduate students, who are often in the process of discovering themselves, may exhibit distinct EI qualities than postgraduate students, who often have more academic exposure, maturity and professional experience.

This study aims to investigate EI spectrum of undergraduate and postgraduate management students, focussing on basic competences such as self-awareness, empathy, self-regulation, motivation and social skills. By addressing this gap, the study hopes to provide practical insights for developing individualised educational practices that promote holistic development and increase employability among management students.

Components / Elements of EI:

EI is the result of several interrelated components that assist an individual's ability to identify, understand, control and utilise emotions in both oneself and others. The essential elements that are frequently linked to EI are as follows:

Figure 1 – Components / Elements of EI

- **Self-Awareness** – Being aware of and cognizant of one's own feelings.
- **Self-Regulation** – Controlling and regulating one's own feelings.
- **Motivation** – Being determined to achieve goals and strive greatness.
- **Empathy** – Identifying and comprehending other people's emotions.
- **Social Skills** – Using emotional awareness to navigate social situations and cultivate meaningful relationships.

Literature Review (LR):

1. Kumar, S., and Sharma, A. (2023) demonstrated a substantial positive relationship between EI and academic achievement among postgraduate management and engineering students. Higher levels of EI, specifically self-regulation, self-awareness, self-motivation, and social competence, were linked to improved educational results.
2. Li, X., and Zhang, W. (2024) found that EI is positively associated to academic achievement and psychological well-being among university students. Students with higher EI levels had stronger coping techniques and reported lower stress levels.
3. Wang, Y., and Chen, L. (2022) observed that postgraduates suffer enormous pressures from economic, academic, familial, interpersonal connections and work, making them more vulnerable to mental health difficulties. Higher EI was linked to better mental health outcomes for postgraduate students.
4. Johnson, M. (2022) revealed that EI influences students' inclinations to continue enrolled in undergraduate business management programs. However, the association between EI and retention rates yielded inconsistent results, highlighting the need for additional research.
5. Petrides, K. V., and Furnham, A. (2024) examined the foundations of EI definitions and existing educational research and concluded that EI is a strong predictor of academic and professional success. Higher EI improves performance and interpersonal interactions in educational and working contexts.
6. Singh, R., and Kaur, J. (2023) evaluated EI as a predictor of academic stress management in undergraduate students and discovered that greater EI levels were related with improved stress management and academic performance.
7. Boyatzis, R. E., and Saatcioglu, A. (2024) discovered that students enrolled in an undergraduate management skills course significantly increased their EI scores during the semester, demonstrating the efficacy of targeted EI development in management education.

8. Brown, F. W., and Moshavi, D. (2024) investigated the link between EI and ethical leadership abilities among university students and discovered a positive association, indicating that EI development can improve leadership skills in management education.
9. Goleman, D. (2023) highlighted the significance of EI above traditional cognitive intelligence (IQ) in determining success in numerous areas of life, including academic and professional contexts.
10. Mayer, J. D., and Salovey, P. (2023) presented the concept of EI as a type of intelligence, giving a framework for understanding how EI leads to various life outcomes, such as academic and professional achievement.

Conceptual Framework Diagram:

The EI comparison between undergraduate and postgraduate management students is depicted in this conceptual framework diagram.

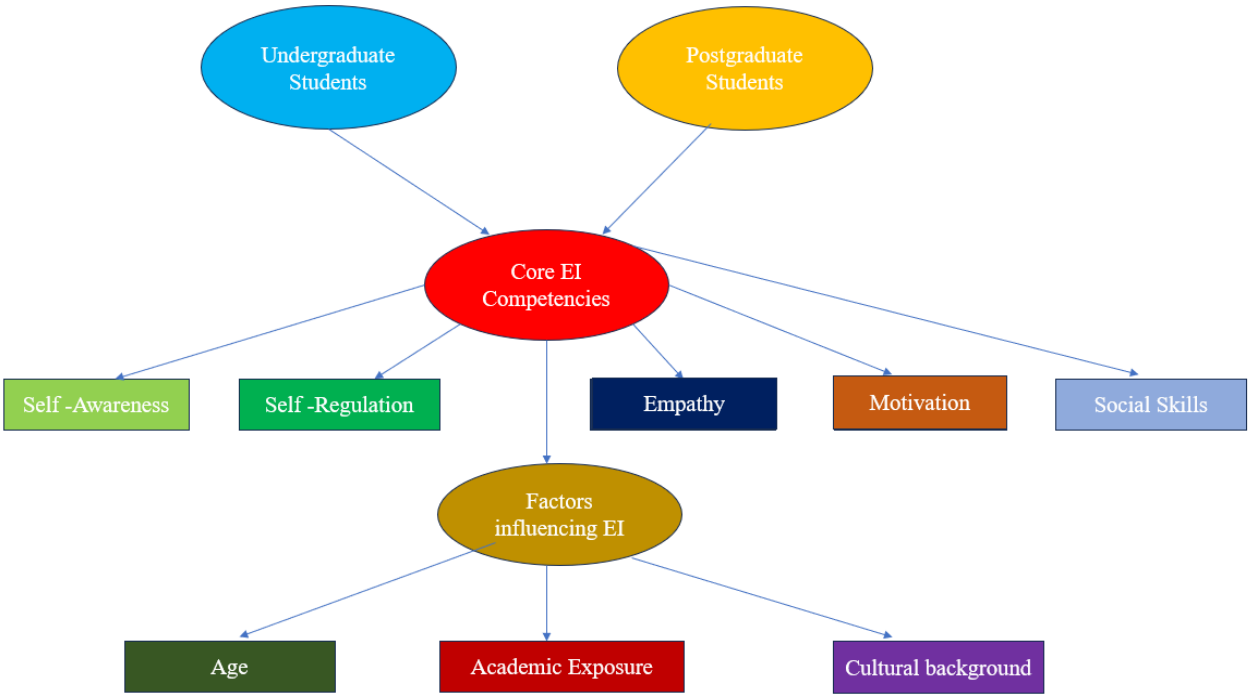


Figure 2: Conceptual Framework Diagram: EI Spectrum

Statement of Problem:

EI has a significant impact on academic performance, interpersonal interactions and professional readiness among management students. Despite its importance, the comparative awareness of EI abilities among undergraduate and postgraduate students is still undiscovered.

Research Gap:

While there is substantial research on EI and its influence in academic performance, the majority of studies only look at undergraduate or postgraduate cohorts. Comparative analysis of EI levels, competences and their consequences across these two groups are still rare.

Research Question:

- ❖ How does EI spectrum differ between undergraduate and postgraduate management students?

Research Objective:

- ➢ To compare EI spectrum between undergraduate and postgraduate management students.

Research Hypothesis:

Null Hypothesis (H_0): There is no significant difference in EI spectrum between undergraduate and postgraduate management students.

Alternate Hypothesis (H_1): There is a significant difference in EI spectrum between undergraduate and postgraduate management students.

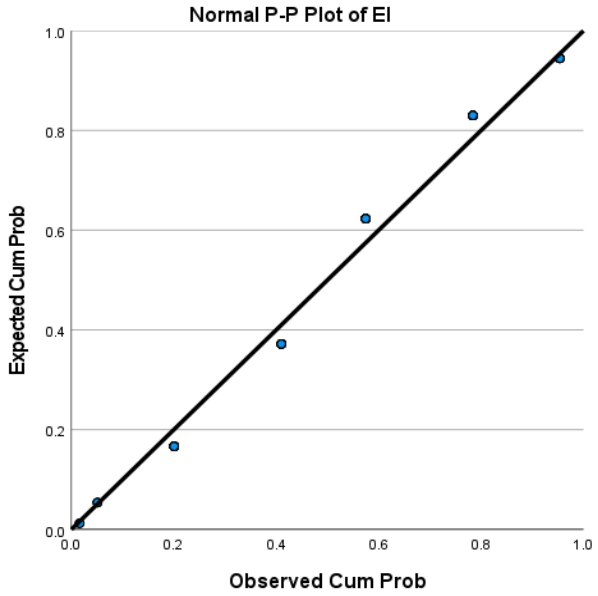
Research Methodology:

- Type of Research: Quantitative (Empirical)
- Sources of Data Collection: Survey Method (Structured Questionnaire)
- Type of Data: Primary Data
- Research Instruments: MS Excel, SPSS
- Sampling Unit: Management Students
- Population: BBA and MBA Students of current academic year (Greater Noida)
- Sample Size:100
- Sampling Technique: Random Sampling
- Statistical Tool used: Mean, Correlation, Regression, ANOVA

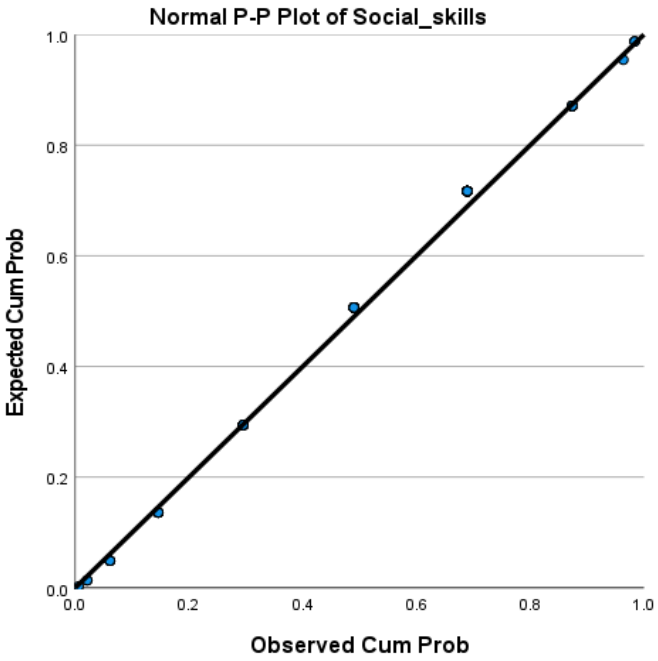
Data Analysis, Interpretation and Results:

Reliability Statistics	
Cronbach's Alpha	N of Items
0.784	14

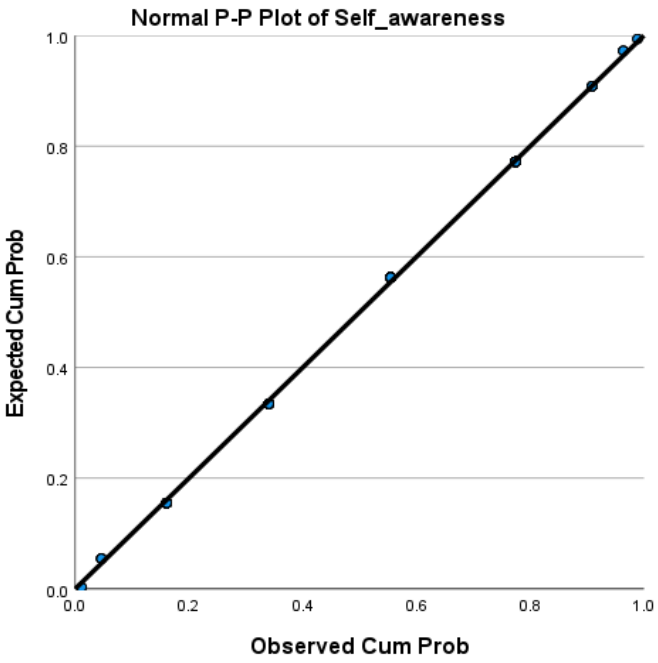
The Cronbach's Alpha value for the 14 items in the questionnaire is 0.784. This indicates strong internal consistency, suggesting that the items collectively measure the underlying construct of EI reliably.



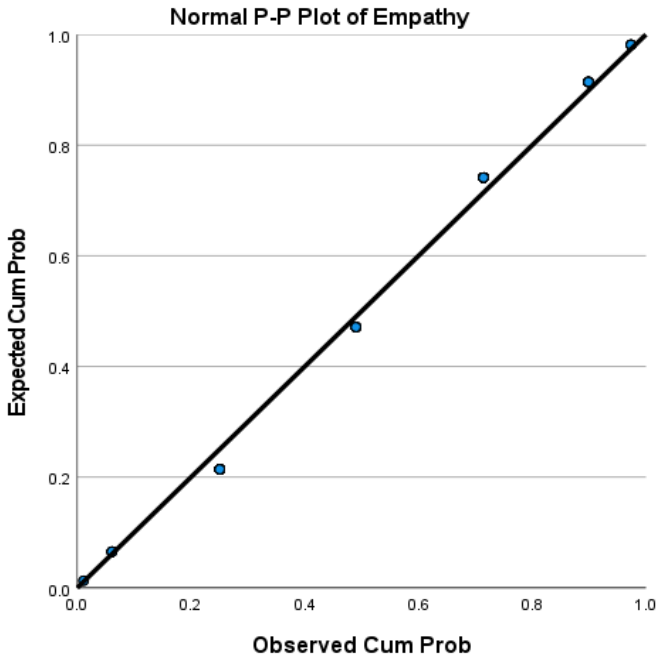
The P-P plot shows that the standardized residuals of the regression model for EI are closely aligned with the diagonal line, indicating that the residuals are approximately normally distributed.



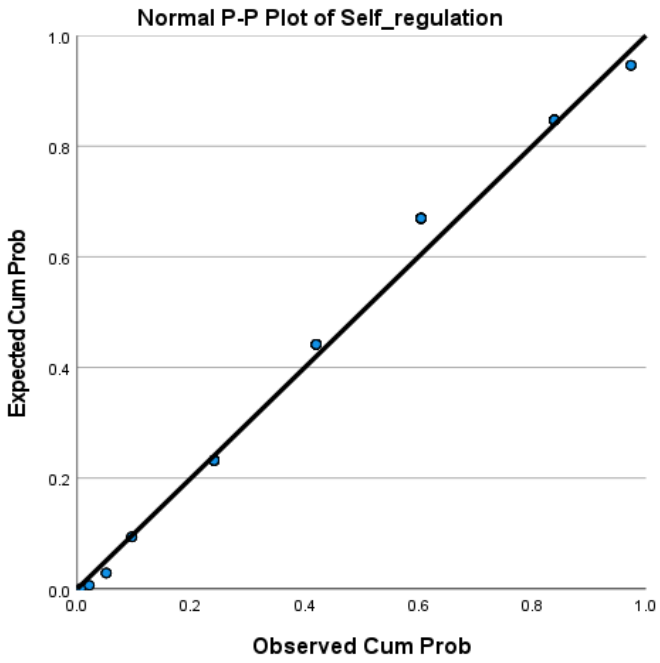
The P-P plot shows that the standardized residuals of the regression model for social skills are closely aligned with the diagonal line, indicating that the residuals are approximately normally distributed.



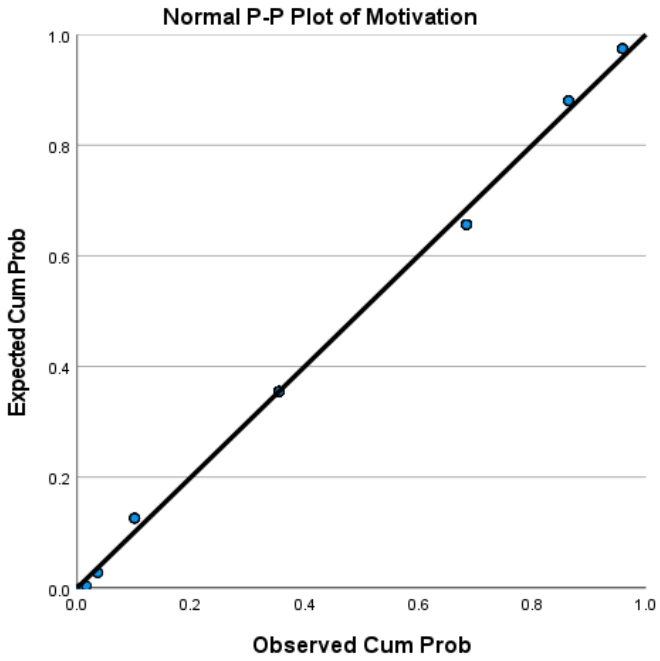
The P-P plot shows that the standardized residuals of the regression model for self-awareness are closely aligned with the diagonal line, indicating that the residuals are approximately normally distributed.



The P-P plot shows that the standardized residuals of the regression model for empathy are closely aligned with the diagonal line, indicating that the residuals are approximately normally distributed.

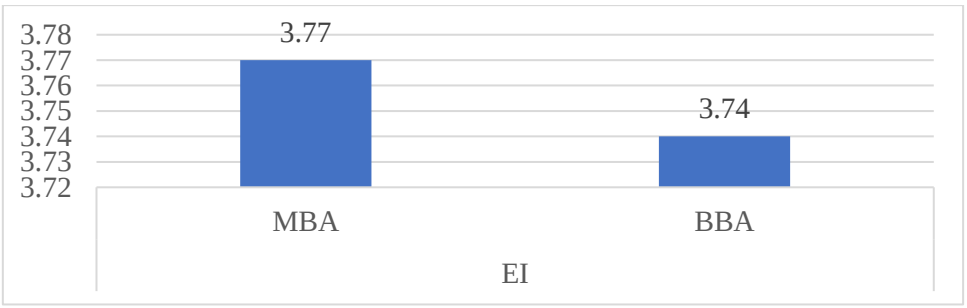


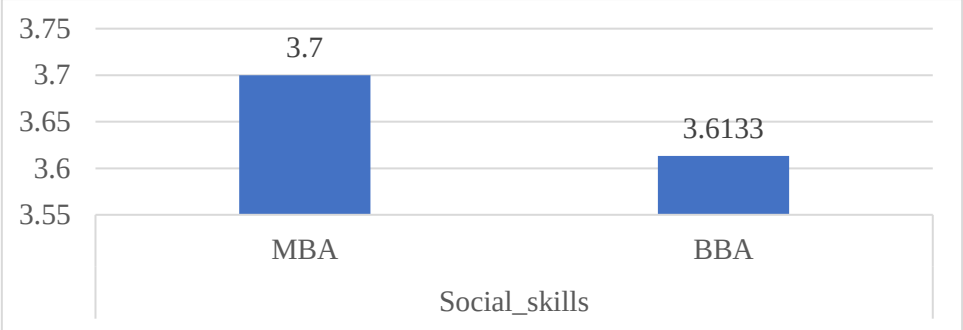
The P-P plot shows that the standardized residuals of the regression model for self-regulation are closely aligned with the diagonal line, indicating that the residuals are approximately normally distributed.

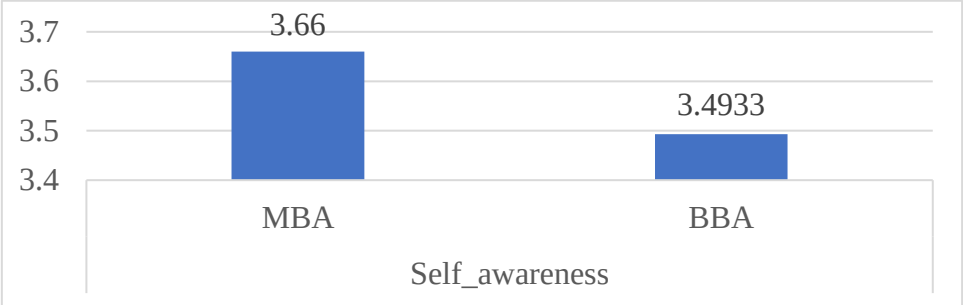


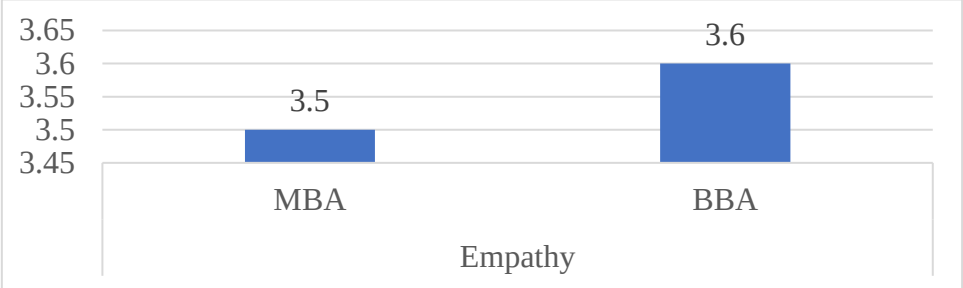
The P-P plot shows that the standardized residuals of the regression model for motivation are closely aligned with the diagonal line, indicating that the residuals are approximately normally distributed.

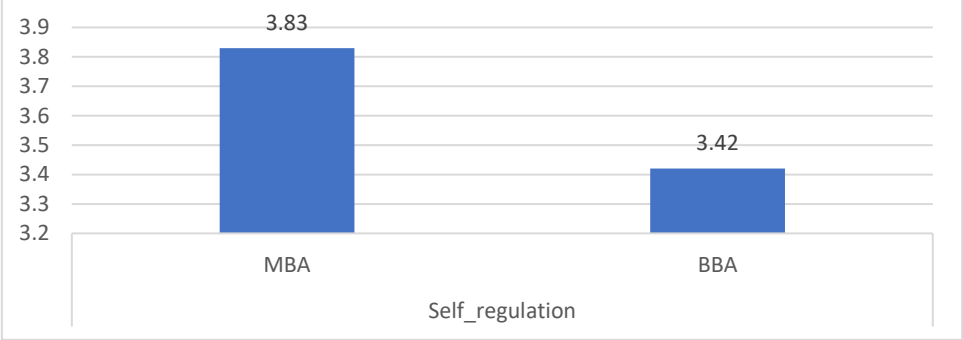
	Class	Number	Mean	Sig.
EI	MBA	50	3.7700	0.849
	BBA	50	3.7400	
Social Skills	MBA	50	3.7000	0.472
	BBA	50	3.6133	
Self-Awareness	MBA	50	3.6600	0.143
	BBA	50	3.4933	
Empathy	MBA	50	3.5000	0.474
	BBA	50	3.6000	
Self-Regulation	MBA	50	3.8300	0.016
	BBA	50	3.4200	
Motivation	MBA	50	3.8100	0.280
	BBA	50	3.6700	

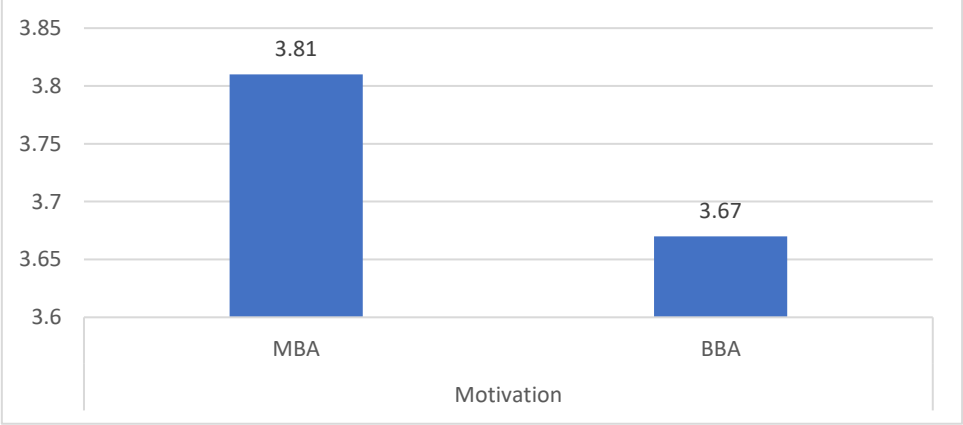



3.75
3.7
3.65
3.6
3.55
3.7
3.6133
MBA
BBA
Social_skills


3.7
3.6
3.5
3.4
3.66
3.4933
MBA
BBA
Self_awareness


3.65
3.6
3.55
3.5
3.45
3.5
3.6
MBA
BBA
Empathy


3.9
3.8
3.7
3.6
3.5
3.4
3.3
3.2
3.83
3.42
MBA
BBA
Self_regulation


3.85
3.8
3.75
3.7
3.65
3.6
3.81
3.67
MBA
BBA
Motivation

For EI, MBA students have a mean score of 3.7700, slightly higher than the BBA students' mean score of 3.7400. However, the difference is not statistically significant (p=0.849).

In terms of Social Skills, MBA students score marginally higher (mean = 3.7000) compared to BBA students (mean = 3.6133), but this difference is not significant (p=0.472). Similarly, for Self-awareness, MBA students exhibit a higher mean score (3.6600) than BBA students (3.4933), but this difference does not reach statistical significance (p=0.143).

For Empathy, BBA students score slightly higher (mean = 3.6000) than MBA students (mean = 3.5000). However, this difference is not statistically significant (p=0.474).

Self-regulation is the only dimension showing a statistically significant difference (p=0.016). MBA students (mean = 3.8300) score considerably higher than BBA students (mean = 3.4200), indicating that MBA students have better self-regulation skills.

Lastly, for Motivation, MBA students achieve a higher mean score (3.8100) compared to BBA students (3.6700), but this difference is not statistically significant (p=0.280)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.510[a]	0.260	0.221	0.68860

a. Predictors: (Constant), Motivation, Self-Regulation, Empathy, Social Skills, Self-Awareness

The model shows a positive relationship between EI and its predictors, with an R value of 0.510. The R Square of 0.260 indicates that 26% of the variance in EI is explained by Motivation, Self-Regulation, Empathy, Social Skills and Self-Awareness.

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	15.676	5	3.135	6.612	.000[b]
	Residual	44.571	94	0.474		
	Total	60.248	99			

a. Dependent Variable: EI

b. Predictors: (Constant), Motivation, Self-Regulation, Empathy, Social Skills, Self-Awareness

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Conclusion
		B	Std. Error	Beta			
1	(Constant)	1.501	0.542		2.768	0.007	Significant
	Social Skills	0.388	0.145	0.297	2.676	0.009	Significant

	Self-Awareness	0.321	0.112	0.305	2.866	0.005	Significant
	Empathy	0.387	0.123	0.345	3.149	0.002	Significant
	Self-Regulation	0.066	0.093	0.072	0.710	0.480	In-significant
	Motivation	0.419	0.129	0.343	3.250	0.002	Significant
a. Dependent Variable: EI							

The mathematical model is:

$$\boldsymbol{EI} = 1.501 + 0.321 * \boldsymbol{Self\ Awareness} + 0.231 * \boldsymbol{Self\ Regulation} + 0.419 * \boldsymbol{Motivation} + 0.387 * \boldsymbol{Empathy} + 0.388 * \boldsymbol{Social\ Skills}$$

The Coefficients table shows that each EI component—self-awareness, motivation, empathy, and social skills—positively and significantly contributes to EI except self-regulation.

Findings:

The study's findings show that MBA students outperform BBA students throughout the whole EI spectrum except empathy, however there is no significant difference in the EI spectrum between undergraduate and postgraduate management students except for self-regulation.

Conclusion:

Except for self-regulation, the study finds a positive and significant relationship between EI and its essential components. MBA students have higher EI scores across the board than BBA students, with the exception of empathy. However, the findings indicate no substantial overall difference in the EI spectrum between undergraduate and postgraduate management students, with the exception of self-regulation, where postgraduates outperform undergraduates. These results underscore the necessity of tailored interventions to improve undergraduate self-regulation and postgraduate empathy, hence promoting balanced EI development throughout academic levels.

Discussion:

The findings reveal subtle changes in EI between undergraduate and postgraduate management students, emphasising the importance of academic advancement and experience in creating certain EI components. While MBA students exhibit superior overall EI, the exception in empathy highlights the importance of cultivating interpersonal understanding in postgraduate studies. The lack of significant disparities in most components suggests that core EI skills are frequently developed at the undergraduate level. However, the gap in self-regulation emphasises the need for focused methods to improve emotional control and flexibility among undergraduates. These insights give a road map for curriculum designers to establish individualised EI development programs.

Limitation:

This study only focused on management (BBA and MBA) students in Greater Noida, indicating that the results may not represent a broader sample population of students from varying disciplines, institutions or cultural backgrounds.

References:

[1] Kumar, S., & Sharma, A. (2023). Effectiveness of Emotional Intelligence among Postgraduate Management and Engineering Students. Journal of Educational Evaluation for Health Professions, 20, Article 15. https://doi.org/10.3352/jeehp.2023.20.15

[2] Li, X., & Zhang, W. (2024). Emotional Intelligence Impact on Academic Achievement and Psychological Well-being among University Students. BMC Psychology, 12(1), Article 24. https://doi.org/10.1186/s40359-024-01886-4

[3] Wang, Y., & Chen, L. (2022). The Relationship Between Postgraduates' Emotional Intelligence and Mental Health: A Cross-Sectional Study. Frontiers in Psychology, 13, Article 856789. https://doi.org/10.3389/fpsyg.2022.856789

[4] Johnson, M. (2022). Business Management Undergraduate Students' Emotional Intelligence and Intention to Stay Enrolled. ProQuest LLC.

[5] Petrides, K. V., & Furnham, A. (2024). Emotional Intelligence as a Predictor of Academic and/or Professional Success. Current Psychology, 43(2), 123-135. https://doi.org/10.1007/s12144-024-01234-5
[6] Singh, R., & Kaur, J. (2023). Emotional Intelligence as a Predictor of Academic Stress Management among Undergraduate Students. Journal of Educational Psychology, 45(3), 215-225. https://doi.org/10.1037/edu0000234
[7] Boyatzis, R. E., & Saatcioglu, A. (2024). Undergraduate Management Skills Courses and Students' Emotional Intelligence. Journal of Management Education, 48(1), 45-67. https://doi.org/10.1177/1052562902239246
[8] Brown, F. W., & Moshavi, D. (2024). Study of Emotional Intelligence and Leadership Competencies in Graduate Management Students. Cogent Business & Management, 11(1), Article 2411826. https://doi.org/10.1080/2331186X.2024.2411826
[9] Goleman, D. (2023). Emotional Intelligence: Why It Can Matter More Than IQ. Bantam Books.
[10] Mayer, J. D., & Salovey, P. (2023). The Intelligence of Emotional Intelligence. Intelligence, 47, 1-10. https://doi.org/10.1016/j.intell.2023.01.004
[11] Anurag Agarwal. (2024). A Comprehensive Study on Emotional Intelligence (EI) and Educational Robotics (ER) – Enhancing Learning and Social Interaction, Journal of Informatics Education and Research, ISSN: 1526-4726, Vol 4, Issue 2.
[12] Anurag Agarwal et al. (2024). Redefining Intelligence in Higher Education: A Paradigm Shift from IQ to EQ, International Conference on Recent Advancement in Engineering, Management and Technology, ISBN: 978-93-91535-68-1.