

Bridging Emotions and Achievement: The Role of Emotional and Social Intelligence in Higher Education Performance through Structural Equation Modelling Approach

Deepak Bangwal¹, Shweta Sethi², Neeraj Kataria³

^{1, 2} School of Business, UPES, Dehradun, U.K.

² Swami Rama Himalayan University, Dehradun, U.K.

Abstract

Academic performance reflects the degree to which students, educators, or institutions achieve their short- and long-term educational objectives. Among the various determinants of performance, emotional and social intelligence (ESI) has emerged as a critical factor within higher education. ESI contributes to students' holistic development by enhancing their ability to manage emotions, build interpersonal relationships, and adapt to academic challenges. This study examines whether improvements in students' emotional and social intelligence lead to enhanced academic performance in both online and traditional learning environments. Adopting a descriptive research design, data were collected through a structured questionnaire survey. The proposed hypotheses were empirically tested using structural equation modeling (SEM) to assess the impact of ESI on academic outcomes. The findings indicate a significant positive relationship between emotional and social intelligence and students' academic performance, suggesting that higher levels of ESI contribute to improved educational outcomes across different modes of learning.

Keywords: Emotional intelligence, Social intelligence, Higher Education, Student performance, Structural Equation Modeling

1. Introduction

"Who will be successful in education?" some people facing continuous failures despite having great intelligence in academics and the post- academics processes. In the educational field, academic performance is the concept that has been studied in most education, training, learning, and all the perceptual factors related to academic performance have been extensively studied (MacCann et al. 2020; Edussuriya et al., 2018; Blake et al., 2015; Pellitteri and Smith, 2007). A number of studies have been a theoretical emphasis on emotional and social intelligence (ESI), it has been perceived as a fundamental element that influences wellbeing as well as adaptive processes in specific contexts (Lopez-Zafra et al., 2019; Zeidner et al., 2016). Several studies presented the significance of ESI as a personal resource allied with health outcomes (Martins et al., 2010), wellbeing (Sánchez-Álvarez et al., 2016), and even performance (Miao et al., 2017; MacCann et al., 2020).

According to Greenberg et al. (2003), educationalists, parents, students, and other

stakeholders of the educational community trust that today's education institutes have to teach beyond basic skills (reading, writing, counting). Today's education institutes must develop a students' social-emotional competence and health (Greenberg et al., 2003). As per the World Economic Forum's, ESI is one of the most growing skills in recent years. ESI has a strong influence on students' mental and physical health. Studies expose that people who are suffering from mental illness in adulthood have manifested signs or had critical episodes during childhood. As per the Directorate-General of Health (2017) report, we cannot avoid some serious mental illnesses, but it is possible to decrease its impact and increase the quality of life. These behavioral, emotional, and mental health problems have been increasing significantly and it directly affects students' academic performance (Fiorilli et al., 2020; Greenberg et al., 2003; Kotter et al., 2017; Almojali et al., 2017). In today's education system, it is a must to take care of students' health and wellbeing apart from teaching and learning (Kickbush, 2012).

Emotional and Social Intelligence (ESI) is an educational movement that improves students'

academic performance. In this context, this study aims to explore the relationships between emotional and social intelligence, student performance, and the mechanisms explaining these effects. Therefore, the study may bring out pragmatic implications that will help in the sustainable development of student academic performance.

2. Literature Review

Emotional and social intelligence (ESI) has become a part of social, psychological, medical, and educational research for nearly two decades. Emotional-Social Intelligence is a combination of personality and mental ability (Bar-On, 2000, 2006). Social intelligence is the ability to interact effectively with others in any social situation to understand, manage and act appropriately in social human relationships (Emmerling and Boyatzis, 2012), whereas emotional intelligence is the ability to recognize, manage and influence one's and others emotions (Keating & Harper et al., 2013).

Academically, different researchers had carried out emotional intelligence and social intelligence in a variety of settings such as academic achievement, demographic factors, intercultural and intracultural. All of these studies somehow evaluated within the theories of emotional intelligence & social intelligence and skills (Norboevich, 2020; Provident et al., 2015; Yüksel & Geban, 2014; Lindsey, 2014). Some of these studies acknowledged the important role of emotional and social intelligence, learning, and skills in part of both 'teacher's approach to instruction and students' approaches to learning' (Kruger & Blignaut, 2013). In the technology-sound and blended learning era, research has found the important link that emotional and social intelligence helps to alleviate the stress accompanying with academic technologies (Alamri et al., 2020; Azizi et al., 2019; Trigueros et al 2019; Kruger, 2013). However, the relationship between emotional and social intelligence with student performance in higher education has yet to be studied. To address this gap, this study explored the relationship between ESI and the students' academic performance.

2.1 Academic Performance

For the development of all education programs, student performance plays an important role in

educational institutions. The most common parameters of evaluating the student performance are usually: Cumulative grade point average (CGPA), Internal assessments (IA), Grade Average (GA), continuous assessment (CA), standard assessment test (SAT), and teacher ratings academic (TRA) (Perera and DiGiacomo, 2013). Now the educational institutions have focused more on intelligence, cognitive abilities, and intelligence quotient for student performance.

An extensive literature is available on the study of cognitive intelligence (Ritchie and Tucker-Drob, 2018). There are several other moreover there are other personal skills that differ from traditional cognitive intelligence that could affect academic performance and success (Fernández-Zabala et al., 2016; Eslava et al., 2016; Alves et al., 2016; Furnham et al., 2009). Currently, there is a need for broader educational models that incorporate personal and contextual factors (Gutman and Schoon, 2013). The other non-cognitive skills comprise attitude, motivation, personality traits, self-regulation, resilience, and social and emotional skills beyond the academic skills that determine successful performance (Ali et al., 2020; Bowles and Gintis, 2007). Likewise, personal factors such as motivation, emotional and social intelligence in the classroom are highly associated with student performance.

2.2 Link between ESI and Academic Performance

The research found that ESI enhancement in higher education students could result a better retention rate (Collins, 2013). Bar-On conducted a study in multiple countries such as the United States of America, South Africa, and Canada in 2006 and found that ESI can predict "who will perform better in academics and who will not." Acebes-Sánchez et al. (2019) stated that ESI measures are the reliable factor of academic achievement, and similarly, they may improve scholarly pursuit and work achievement. Several other studies also justified the positive relationship between emotional and social intelligence and skills and student academic performance (Goh & Kim, 2020; Ranasinghe et al., 2017; Fayombo, 2012; Collins, 2013).

In addition, when the students shift from school to university, students are more focused on academic

performance, and it directly or indirectly increases the worth of ESI competencies (Nikooyeh et al., 2017). Interpersonal and intrapersonal skills are of great importance in higher education since it is a period that consists of many social, contextual, personal changes and stresses. In higher education, the institution needs to promote students' academics, emotional and social intelligence. It not only improves the student's academics performance but also influences students' nonacademic performance as well as student social development and strengthens the student's mental health (Tus, 2020; Trigueros et al., 2019). Durlak et al. (2011) conducted the study with 2,70,000 students and found that students got an eleven percentile-point gain in academic achievement compared to other students who did not participate in the emotional and social intelligence program. In this sense, emotional and social intelligence are valuable for students to cope with academic development, academic stress, social development, and academic performance (Chand et al., 2021; Zysberg & Zisberg, 2020; Suleman et al., 2019). An emotional and social sensitive students are highly affected by academic and nonacademic stress and their less perceptive counterparts, expressing a higher level of mental distress (Chandra et al., 2021, Tus et al., 2020).

It is assumed that persons who low perceptive might ignore thoughts of daily situation that is annoying

and therefore might be more likely to be confused about the experienced negative feelings showing less coherence between their levels of perceived stress and psychological maladjustment. Thus, students with high ESI are stronger enough to deal with illness, shock, and change, they are responding better under stressful situations and handling the difficulties in the form of challenges (Chandra, 2021; Morón, 2021; Schneider et al., 2013). Finally, students who are capable enough to handle their emotions are happier and have social relationships (Alamri et al., 2020; Eryilmaz, 2011). In academics, they can easily get great support from classmates and professors as well as a better predisposition of learning-oriented abilities might be associated with a more excellent academic performance (Hornung et al., 2021; Johnson, 2016). The present study examined the empirical relationship between ESI and students' performance in higher education.

3. Conceptual Research Model and Hypothesis

Based on the literature review, as shown in Figure 1. The conceptual model and hypothesis are formulated for the two exogenous variables (Emotional Intelligence and Social Intelligence) and the one endogenous variables (Academic Performance) to explain the interrelationship between ESI (Emotional Intelligence and Social Intelligence) and their impact on the student academic performance in higher education.

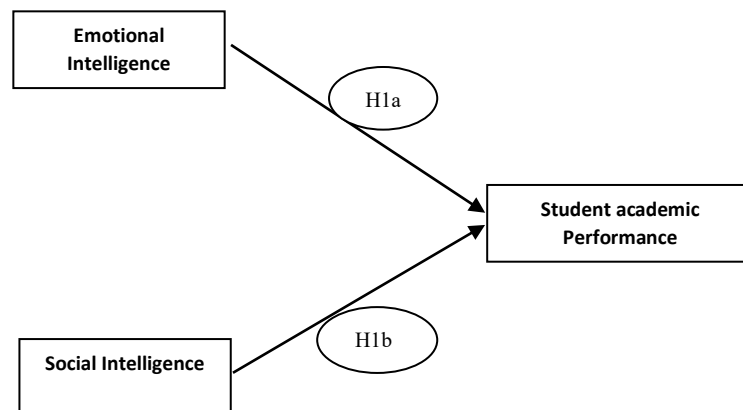


Figure 1. Purposed research model and Hypothesis



Based on the conceptual background, the following hypothesis are proposed; these hypotheses are empirically tested through AMOS 26.

Hypothesis 1 (H1a): Emotional Intelligence has a significant positive impact on student academic performance.

Hypothesis 2 (H1b): Social Intelligence has a significant positive impact on student academic performance. \

4. Methodology

4.1 Empirical Design and Data Collection

A quantitative approach was taken to investigate the research objective. The present study uses self-administered questionnaires by using a 5-point Likert-type scale, ranging from strongly disagree. The questionnaire used in this study was addressed to the students of selected higher education institutions, namely, UPES, MIT Pune, and Kaziranga University. The questionnaire comprised three sections to address the hypotheses framed in the study. The first section included questions related to the respondent's demographic background such as institution name, age, gender, and program. The second section was aimed to collect information from the respondents about their opinion on emotional and social intelligence and their impact on academic performance. The selections of items were finalized after ensuring the reliability and validity of

the survey instrument through a pilot study. In the final phase, structural equation modeling (SEM) analysis was conducted on AMOS 26 to investigate the research model and hypothesis.

4.2 Questionnaire Distribution

In this study, 400 questionnaires were sent out to the students of higher education institutions through the convenience sampling method. The questionnaire survey was conducted from January to May 2021. Out of 400, 215 questionnaires were received, representing a 50% response rate. The questionnaire survey's satisfactory response rate is based on recommended practices as discussed in many published literature. The questionnaires were distributed to the higher education students via the internal mail systems.

5. Data Analysis and Results

5.1 Sample Characteristics

The demographic profile of the respondents is shown in Table I. Out of 215 respondents, 60 percent were female, and 40 percent were male. Selected respondent comes under the category of undergraduate students. In addition, 40 percent of students were falling in the age group of 15–20 years, 48 percent of students were falling in the age group of 21–25 years, and 12 percent of students were falling in the age group of 26–30 years.

Table I. Demographic profile of the sample

Variable	Categories	Frequency (n=215)	Response %
Gender	Male	88	40
	Female	127	60
Age Group	15-20	85	40
	21-25	103	48
	26-30	27	12
Program	Undergraduate	215	100

5.2 Reflective Measurement Model

The measurement model generally explains the relationship between observed indicators and latent construct. Therefore, in the measurement model, it

is highly required to test the reliability and validity of the measurement model (Ifinedo, 2006). In this study, the measurement model comprises of three constructs, namely, ESI, which is represented by emotional intelligence (EMI) and social intelligence

(SOI), and student performance (SPR), as shown in Figure 2.

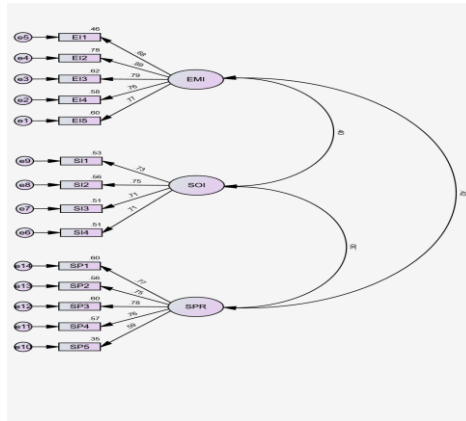


Figure 2 Measurement model

As presented in Table II, In the reflective measurement model, Cronbach's alpha was

performed to evaluate reliability of the loadings and the reliability of the loadings is greater than 0.700, which is considered a good degree of reliability.

Table II. Standard loadings, C.R. and Cronbach Alpha of measure variables

Construct	Items	Standardized Regression Weights	Cronbach Alpha
Emotional Intelligence	EI5	0.771	0.882
	EI4	0.761	
	EI3	0.785	
	EI2	0.885	
	EI1	0.676	
Social Intelligence	SI4	0.715	0.816
	SI3	0.712	
	SI2	0.747	
	SI1	0.731	
Student Performance	SP5	0.588	0.842
	SP4	0.757	
	SP3	0.776	
	SP2	0.747	
	SP1	0.772	

Jöreskog's (1971) composite reliability is often used to check the internal consistency reliability of the model. For this, usually, a greater value represents greater levels of reliability. Most often, values that lie between 0.60 and 0.70 are said to be "acceptable in exploratory research," whereas the values that lie between 0.70 and 0.90 are often considered as "satisfactory to good." 0.95 and above values raise an issue, demonstrating the redundancy of the items, hence lowering construct validity (Diamantopoulos et al., 2012). However, another estimate of internal

consistency reliability is Cronbach's alpha. Cronbach's alpha considers similar thresholds however it gives lesser values as compared to composite reliability. Composite reliability and Cronbach's alpha are in contrast; however, the true reliability of any construct is usually seen in the extreme of these two values. Next, the convergent validity of the constructs is assessed. The converging of each construct to describe the variance of its items is the convergent validity. The average variance explained (AVE) is used to determine the construct validity. The AVE is

computed by squaring the indicator loadings on each construct and calculating their mean value. AVE that is greater than 0.50 is accepted 50 percent of the

variance is explained. Based on the argument, our results are in line with the suggested value. Refer to Table III.

Table III. Convergent validity and discriminant validity

Construct	Items	AVE	ASV	CR
Emotional Intelligence	EI5	0.606	0.17	0.884
	EI4			
	EI3			
	EI2			
	EI1			
Social Intelligence	SI4	0.528	0.125	0.817
	SI3			
	SI2			
	SI1			
Student Performance	SP5	0.535	0.133	0.851
	SP4			
	SP3			
	SP2			
	SP1			

In a structural model, the degree with which a construct is analytically different from its fellow constructs is defined as discriminant validity. Therefore, the AVEs must be higher than the shared variance of the constructs of the model.

Table IV. shows the summary of goodness-of-fit indices for the measurement model. The model fit indices such as the comparative fit index, goodness

of fit index, normed fit index, Tucker Lewis index, and root mean square of error approximation were considered to determine the model fit (Hair et al., 2010). To get the perfect model fit the standard values of $\chi^2/df < 3$, CFI, GFI, NFI and TLI > 0.9 and the RMSEA < 0.08 (Gefen and Straub, 2000). The result shows that we can proceed to test the structural model

Table IV. Summary of goodness-of-fit indices for measurement model

Model Fit Index	χ^2/df	CFI	GFI	NFI	TLI	RMSEA
Model	1.482	0.985	0.875	0.955	0.981	0.036

5.3 Structural model

After the satisfactory results of the measurement model, we proceed to test the structural model. It

helped us to examine the hypothesised conceptual research model.

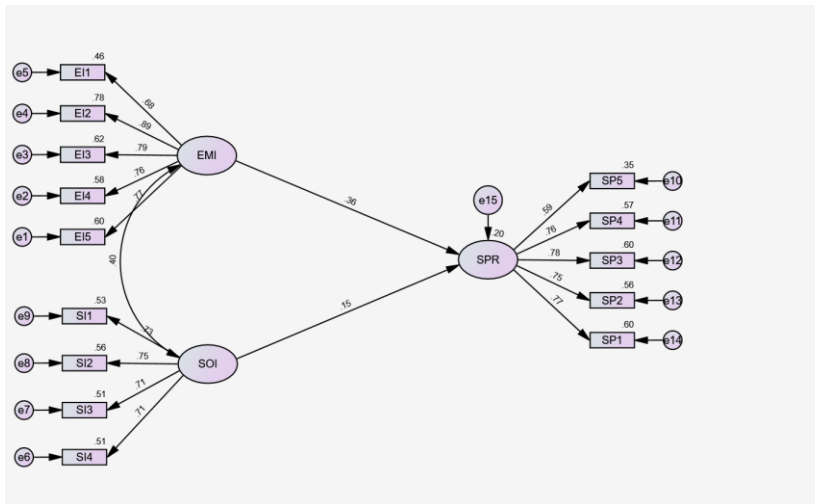


Figure 3 Structural model

The path via EMI→SPR exhibit statistically significant effects on SPR. Hypothesis H1a, which proposed that emotional intelligence has a significant positive impact on student academic performance, has postulated a positive relationship between EMI and student academic performance. Students experience more fit and motivated while performing some task and significantly support the

Hypotheses H1a ($\beta = 0.371, p < 0.001$). However, Hypothesis H1b, which proposed that social intelligence has a significant positive impact on student academic performance, was also supported ($\beta = 0.153, p < 0.05$), so ESI positively leads to student performance. To examine the mediating effects, models were tested and evaluated based on Sobel tests. The outcome of hypothesis testing is indicated in Table V.

Table V. Summary of testing hypothesis

	Hypothesis	Structural Relationship	St. Est (β)	SE	P	Result
	H1a	SPR <-- EMI	0.371	0.43	P < .001	Supported
	H1b	SPR <-- SOI	0.153	0.41	P < .05	Supported

Notes: β , standardized β coefficients; SE, standard error; $p \geq 0.05$; $***p \geq 0.001$

Discussion

This study aimed to determine whether students' performance is influenced by emotional and social intelligence in an empirical sense. The output of the study confirmed that the ESI had positively affect students' academic performance in higher education. These outcomes are significant in light of fact that the education sector has confidence in ESI and felt the necessity of ESI to improve students' performance in a competitive scenario.

Regarding our hypothesis, we found a significant relationship between ESI and academic performance. These findings recommend that knowledge of one's own and others' emotions and feelings, as well as the skill to elucidate adaptive

problems, delivers an essential basis for academic learning (Zeidner and Matthews, 2016). ESI has a two fold role; on the one side, ESI has intrapersonal affective impacts on aspects related to AP, such as motivation and self-regulation. On the other side, interpersonal skills improve social networks with the teacher and other students in academics, which is essential in higher education.

Higher education is one of the key contexts for developing emotional and social intelligence, skills, and capabilities (Zeidner and Matthews, 2016). Developing emotional and social intelligence, in the early stages of adolescence (Herrera et al., 2020), will permit students to become consolidated personal resources to accept challenges positively and endorse enthusiasm toward academic

performance and wellbeing. This study delivers appropriate information in the context of emotional and social intelligence for developing programs specifically focused on improving students' emotional and social intelligence and providing an empirical basis for developing theoretical educational models oriented to student academic performance.

The promotion of emotional and social intelligence within the Indian educational context has seen advances and retreats. From 2021, the Indian education system is moving with a new education policy, which is focused on performance-oriented education and the integration of personal and social intelligence to preventing academic failure.

The education sector is the best platform for establishing ESI to bring improvements in the students and to the educational institutions. We are experiencing a special moment in India due to the implementation of a new education policy, and this has brought several challenges to academic institutions, teachers, students, and society as a whole. It is recommended to the academicians and practitioners, they can develop emotional and social intelligence through workshops it will improve their mental health and interpersonal aspects.

Conclusion

In conclusion, the results of this study found a significant association between ESI and student academic performance. Future research needs to explore how other variables influence the relationship of ESI and student academic and what is the mediating role of mental and physical capabilities with student academic performance. This study presents an empirical view of the relationship between ESI and student academic performance. These findings are of great significance in the descriptive models intended to predict academic performance in higher education.

ESI approach aimed at developing key competencies: self-awareness, social awareness, Self-regulation, Conversational skills, Understanding how other people's emotions work, Playing social roles efficiently, and responsible decision making. From our point of view, this is a promising approach to supporting students to deal adequately with the demands of today's society

while also promoting greater academic performance in this competitive scenario.

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