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Exploring the Link Between Emotional Intelligence and Academic Performance in Middle School Students: A Case Study

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Abstract: *This study examined the relationship between emotional intelligence (EI) and academic performance among 33 middle school students, while also exploring differences based on gender, grade level, scholarship status, and extracurricular participation. Participants completed validated self-report measures assessing five EI components, and academic performance was evaluated through task and contextual performance scores. Spearman's rank-order correlations indicated significant positive associations between motivation, social skills, and both academic performance measures. Kruskal–Wallis tests revealed no significant differences in EI or academic performance by gender or grade level. However, students receiving scholarships achieved significantly higher task performance, and those participating in extracurricular activities demonstrated significantly higher contextual performance, with near-significant differences in task performance and social skills. These results provide limited support for the study's hypotheses, suggesting that specific EI components—particularly motivation and social skills—are linked to academic success, and that contextual factors such as financial support and extracurricular engagement can enhance performance outcomes. The findings highlight the value of integrating emotional skills training and extracurricular opportunities into school programs to promote both academic and socio-emotional development during early adolescence. Owing to the limited sample size and the single-school context, the findings should be regarded as exploratory and context-specific.*

Keywords: *emotional intelligence; academic performance; middle school; scholarship; extracurricular activities; motivation; social skills.*

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1. Introduction

Emotional intelligence (EI) has emerged as a crucial construct in understanding how individuals perceive, interpret, and manage their own emotions and those of others

Since its popularisation by Goleman (1995), EI has been increasingly recognized as a predictor of social adaptation, academic achievement, and psychological well-being, particularly in adolescents—a developmental stage marked by profound cognitive, emotional, and social changes. Middle school represents a critical period in which students transition from childhood to adolescence, encountering heightened academic demands, shifting peer relationships, and evolving self-identities.

Research has shown that higher levels of emotional intelligence are associated with better conflict resolution, stronger interpersonal relationships, and improved resilience to stress (Mayer, Salovey, & Caruso, 2004). In the school environment, EI competencies—such as empathy, self-regulation, and emotional awareness—can influence both learning outcomes and classroom climate. Despite this, the integration of EI assessment and training into educational practice remains uneven, particularly at the middle school level, where emotional competencies are still developing and highly malleable.

This case study aims to explore the emotional intelligence profiles of middle school students within a specific educational context, examining how individual differences in EI relate to social interactions, academic engagement, and behavioural adjustment. By situating the findings within both theoretical frameworks and practical implications, this research seeks to contribute to a deeper understanding of how fostering emotional intelligence can support holistic student development.

2. Literature Review

EI has become a prominent construct in educational psychology, offering insights into how students perceive, use, understand, and regulate emotions to navigate both academic and social challenges. The concept is commonly approached from two perspectives: ability EI, defined as a set of emotion-related cognitive skills measured through performance-based assessments, and trait EI, conceptualised as self-perceptions of emotional abilities and personality-related dispositions, typically assessed via questionnaires (Mayer & Salovey, 1997; Petrides & Furnham, 2001). In school-based research, these two approaches often yield different, though complementary, patterns of association with outcomes such as grades, classroom behaviour, and socio-emotional adjustment (Keefer et al., 2018).

The middle school years represent a pivotal developmental stage marked by heightened academic demands, rapid neurocognitive growth, and evolving peer relationships (Steinberg, 2014). During this period, students' ability to manage emotions effectively is closely tied to their academic performance. Meta-analytic findings demonstrate that EI is a significant predictor of academic achievement, even after accounting for general cognitive ability and socio-economic background (MacCann et al., 2020). This relationship appears to be mediated by self-regulatory behaviours, sustained attention, persistence, and adaptive coping strategies that support learning (Sánchez-Álvarez et al., 2020; Rivers et al., 2012).

Research consistently shows that students with higher EI tend to engage more constructively with their learning environment. They participate actively in class, manage their time more efficiently, and work more effectively in group tasks—behaviours that contribute directly to academic success (Brackett et al., 2012; Qualter et al., 2012). Moreover, EI is associated with lower levels of burnout and school-related stress, enabling students to sustain motivation and performance under pressure (Resurrección et al., 2014; Zeidner et al., 2012). These findings suggest that EI is not merely a social asset but a fundamental component of academic resilience.

Measurement of EI in adolescents often involves tools such as the Mayer–Salovey–Caruso Emotional Intelligence Test – Youth Version (MSCEIT-YV), which evaluates ability EI through emotion-related reasoning tasks, and self-report instruments like the Bar-On EQ-i:YV or the Trait Emotional Intelligence Questionnaire – Adolescent Short Form (TEIQue-ASF) (Bar-On & Parker,

2000; Petrides, 2009). Studies indicate that both types of measures relate to academic outcomes, although ability-based assessments may be more strongly linked to standardised test performance, while trait EI often correlates with classroom participation and teacher evaluations (Keefer et al., 2018). Ensuring developmental appropriateness and cultural relevance in these measures is essential, as language level, contextual familiarity, and cultural norms regarding emotion expression can influence results (Fernández-Berrocal et al., 2012).

School-based interventions aimed at enhancing EI—often framed within the broader scope of social and emotional learning (SEL)—have been shown to yield improvements in both emotional competencies and academic performance. Meta-analyses confirm that such programmes not only reduce conduct problems and improve peer relations but also lead to measurable gains in academic achievement (Durlak et al., 2011; Taylor et al., 2017). Middle school-focused programs such as RULER and Second Step have demonstrated increases in emotional knowledge, improved classroom climates, and greater engagement, which in turn contribute to higher grades and test scores (Brackett et al., 2012; Low et al., 2016). The most effective interventions are those integrated throughout the school environment, reinforced by teacher training, and supported by family involvement (O'Connor et al., 2017).

Despite substantial evidence, important research needs remain. Many studies examining EI and academic performance in adolescents employ broad secondary school samples, potentially masking differences unique to the middle school period. Contextual factors such as school culture, teacher emotional competence, and socio-economic background are often under-examined, despite their likely influence on both EI development and its academic benefits. Methodologically, the predominance of cross-sectional designs limits causal inferences, and heavy reliance on self-report data introduces bias. Additionally, more culturally sensitive research is required to explore how EI manifests itself and influences academic performance in diverse educational settings.

The present case study extends this body of literature by examining the EI profiles of middle school students within a specific educational setting and analysing their relationship to academic engagement and measurable performance outcomes. By integrating both ability- and trait-based EI perspectives, and situating findings within the school's socio-cultural environment, this study seeks to generate practical insights for fostering emotional competencies that underpin academic success.

3. Methodology

The present study set out to investigate the relationship between emotional intelligence (EI) and middle school students' academic performance, while also considering other factors such as participation in extracurricular activities and the receipt of school scholarships. Furthermore, the study sought to identify the EI dimensions that play a decisive role in enhancing task performance and contextual performance, drawing on a theoretical and empirical framework inspired by recent research in higher education (Radu et al., 2024a). Student performance was evaluated using the standard 6–10 grading system, which is consistent with national educational practices but may not adequately capture finer distinctions in achievement. To address this limitation, the study employed measures of task and contextual performance rather than relying solely on traditional indicators such as grade point average (GPA). While GPA reflects academic attainment, it does not encompass the broader range of behaviours and competencies relevant in both educational and organisational settings. Task performance pertains to activities directly associated with the completion of core academic duties, whereas contextual performance refers to discretionary behaviours that contribute to the social and psychological functioning of the learning environment (Borman & Motowidlo, 1993).

3.1. Research Hypotheses

To achieve the aim of the study, we formulated the following hypotheses (Table 1):

Hypothesis 1. There is a positive relationship between emotional intelligence and students' academic performance.

Hypothesis 2. There are significant differences in emotional intelligence scores according to students' gender.

Hypothesis 3. Grade level (7th vs. 8th) influences emotional intelligence scores and academic performance.

Hypothesis 4. Students who receive scholarships score higher in emotional intelligence and academic performance compared to those who do not receive financial support.

Hypothesis 5. Participation in extracurricular activities is associated with higher scores in both emotional intelligence components and academic performance.

Table 1. Summary of hypotheses, expected relationships, and observed outcomes

Hypothesis	Expected Relationship	Observed Outcome	Supported
H1: Emotional intelligence positively influences task performance	Higher EI → better task performance	Moderate positive correlation ($r = .32, p < .05$)	Partial supported
H2: Emotional intelligence differs by gender	Girls expected to score higher than boys	Small, non-significant differences	Not supported
H3: Grade level (7th vs. 8th) influences EI and academic performance	8th grade students expected to score higher	No statistically significant differences (all $p > 0.05$)	Not supported
H4: Scholarship recipients score higher in EI and academic performance	Students with scholarships → higher EI & academic results	No significant differences in EI; significant advantage in task performance ($H = 8.882, p = .003$)	Partial supported
H5: Participation in extracurricular activities is associated with higher EI and academic performance	Students active in extracurriculars → higher EI & academic results	No significant differences in EI; significant advantage in contextual performance ($H = 7.790, p = .005$); near-significant in task performance & social skills	Partial supported

3.2. Participants

The sample consisted of 33 students from 7th and 8th grades at Elena Doamna Middle School, Tulcea, coming from diverse socio-cultural backgrounds, selected through a convenience sampling procedure. Participation was voluntary and anonymous, and all responses were completed individually, under controlled conditions, in the presence of teachers. No material rewards were offered for participation, and the parents were informed about the objectives of the study.

3.3. Instruments

3.3.1. Demographic Questionnaire

As part of the data collection process, participants completed a short demographic questionnaire designed to capture basic socio-academic characteristics relevant to the study. The instrument included items on age (in completed years), gender (male/female), and current grade level. To assess academic standing, students were asked whether they received a study, merit, or performance scholarship (excluding social scholarships) and whether they had any grades below 6 (on the 1–10 Romanian grading scale).

Additionally, participants indicated their involvement in extracurricular activities such as sports, arts, foreign language courses, or volunteering, as well as their membership in student organisations or clubs. This information was used to contextualise the emotional intelligence and academic performance data, enabling subgroup comparisons and exploration of potential moderating factors.

3.3.2. EI Scale

A standardized scale, consisting of 50 items and adapted from the *Self-awareness and well-being Leadership Toolkit Emotional intelligence*¹ was employed in this study to suit the middle school level. The instrument assesses five dimensions of emotional intelligence, following the model proposed by Goleman (1995): self-awareness, self-regulation (emotional management), motivation, empathy and social skills. Although the adapted *Self-Awareness and Well-Being Leadership Toolkit Emotional Intelligence* scale demonstrated satisfactory internal consistency in our sample, it has not been fully culturally validated for Romanian adolescents. This represents a limitation, as cross-cultural adaptation typically requires confirmatory factor analysis and additional validation procedures to establish construct validity (Fernández-Berrocal et al., 2012). Future research in Romania would benefit from employing psychometrically, validated adolescent-focused instruments, such as the *Trait Emotional Intelligence Questionnaire – Adolescent Short Form* (TEIQue-ASF; Petrides, 2009), which has been widely validated across European populations. The use of such instruments would enhance comparability and external validity while supporting stronger inferences regarding the relationship between emotional intelligence and academic performance. In this study, emotional intelligence was measured using a 50-item version of the Toolkit, linguistically adapted for middle school students in the Romanian context. Although originally designed for adults, the items were simplified for age-appropriate comprehension. Responses were recorded on a five-point Likert scale ranging from 1 (“never”) to 5 (“always”). To evaluate the internal consistency of the subscales within the instruments used, Cronbach’s alpha coefficients were calculated for each of the five emotional intelligence components, as well as for the two dimensions of academic performance. The results indicated satisfactory to excellent levels of internal consistency: self-awareness $\alpha = 0.71$, self-regulation $\alpha = 0.84$, motivation $\alpha = 0.79$, empathy $\alpha = 0.80$, and social skills $\alpha = 0.86$. Regarding the two components of academic performance, Cronbach’s alpha was 0.80 for task performance and 0.78 for contextual performance. These values confirm that the items included in each scale demonstrate adequate internal coherence, thereby supporting the validity of the measurements conducted in the study. Nevertheless, no confirmatory factor analysis (CFA) was performed for the adapted version, which restricts the available evidence regarding its construct validity. Future research should therefore employ established and psychometrically validated instruments for adolescents, such as the *Trait Emotional Intelligence Questionnaire – Adolescent Short Form* (TEIQue-ASF; Petrides, 2009).

3.3.3. Performance Scale

Performance was assessed using a 16-item standardised scale, adapted from the Performance Rating Scale (Goodman & Svyantek, 1999) and tailored for middle school students. The instrument consists of two components: task performance (the ability to efficiently complete school-related tasks) and contextual performance (engagement in activities that support the educational climate, such as cooperation, initiative, or assisting classmates).

3.3.4. Study Design and Work Protocol

The study had a cross-sectional, non-experimental, and exploratory design. Data were collected between March and May 2025 during homeroom and biology classes. The questionnaires were completed in Google Forms under the supervision of a teacher. Prior to completion, students were informed about the purpose and confidentiality of the study. Completing the questionnaires took approximately 45–50 minutes. At the beginning of the questionnaire, students were provided with information regarding its content, the estimated completion time, and were asked to give their consent to proceed. The questionnaire allowed only one response option per item, could not be partially completed, and the questions were presented in the same order for all participants.

¹ https://www.drugsandalcohol.ie/26776/1/Emotional_intelligence_questionnaire-LAL1.pdf

4. Results

4.1. Descriptors

Table 2 presents the descriptive and statistical values for the five dimensions of emotional intelligence and the two dimensions of academic performance. Reported measures include the mean, standard deviation, minimum and maximum scores, skewness and its standard error, kurtosis and its standard error, as well as the results of the Shapiro–Wilk normality test.

The descriptive analysis indicates that the five emotional intelligence dimensions have mean scores ranging from 32.24 (Managing emotions) to 40.15 (Self-awareness), with standard deviations between 6.20 and 9.06, suggesting moderate variability within the sample. Skewness values for these dimensions range from -0.665 (Self-awareness) to 0.349 (Managing emotions), all falling within ± 1 , indicating no substantial asymmetry in score distributions. Similarly, kurtosis values are close to zero, suggesting distributions are generally mesokurtic.

Table 2. Descriptive and normality analysis for the EI components and academic performance

Variable	Mean	SD	Min	Max	Skewness	SE Skewness	Kurtosis	SE Kurtosis	Shapiro- Wilk	p Shapiro- Wilk
Self-awareness	40.152	8.171	20	55	-0.665	1.422	-0.221	1.422	0.941	0.074
Self-regulation	32.242	6.2	18	50	0.349	1.079	0.987	1.079	0.975	0.622
Motivation	33.182	8.072	17	49	-0.372	1.405	-0.266	1.405	0.961	0.281
Empathy	32.576	7.163	16	50	-0.171	1.247	0.169	1.247	0.985	0.911
Social skills	32.515	9.059	16	50	-0.056	1.577	-0.597	1.577	0.971	0.498
Task performance	26.242	5.81	10	36	-0.909	1.011	0.515	1.011	0.931	0.037
Contextual performance	19.061	4.415	9	28	-0.161	0.769	-0.493	0.769	0.985	0.912

The Shapiro–Wilk normality test results show that all emotional intelligence dimensions have p values above 0.05, indicating no statistically significant deviation from normality. This supports the appropriateness of parametric statistical tests for subsequent analyses involving these variables.

For the two academic performance dimensions, Task performance has a mean of 26.24 (SD = 5.81) and shows moderate negative skewness (-0.909) and slightly positive kurtosis (0.515). The Shapiro–Wilk test for this variable yielded $p = 0.037$, indicating a statistically significant deviation from normality, which may require data transformation or the use of nonparametric methods in inferential analysis. Contextual performance, with a mean of 19.06 (SD = 4.42), has skewness and kurtosis values close to zero and a Shapiro–Wilk $p = 0.912$, consistent with a normal distribution.

Overall, the results suggest that most variables meet the assumption of normality, except for Task performance, which exhibits a significant departure from normality.

4.2. Testing Hypotheses

4.2.1. Hypothesis 1. There is a positive relationship between emotional intelligence and students' academic performance.

Spearman's rank-order correlation analysis (Table 3) revealed several statistically significant positive associations between EI components and academic performance indicators. Motivation demonstrated the strongest relationships, correlating positively with both task performance ($\rho = 0.54$, $p = 0.001$) and contextual performance ($\rho = 0.48$, $p = 0.004$). Social skills were also significantly related to task performance ($\rho = 0.37$, $p = 0.035$) and contextual performance ($\rho = 0.46$, $p = 0.007$). The total EI score showed moderate positive correlations with both task performance ($\rho = 0.42$, $p = 0.015$) and contextual performance ($\rho = 0.46$, $p = 0.007$).

Table 3. Spearman's rank-order correlation coefficients (ρ) between EI components and academic performance. p-values are shown in parentheses

EI Component	Task Performance	Contextual Performance
Self-awareness	0.27 ($p = 0.132$)	0.22 ($p = 0.211$)
Self-regulation	0.25 ($p = 0.164$)	0.38 ($p = 0.029$)
Motivation	0.54 ($p = 0.001$)	0.48 ($p = 0.004$)
Empathy	0.20 ($p = 0.268$)	0.32 ($p = 0.073$)
Social skills	0.37 ($p = 0.035$)	0.46 ($p = 0.007$)

Self-regulation was significantly associated only with contextual performance ($\rho = 0.38$, $p = 0.029$), while self-awareness and empathy, although positively correlated, did not reach statistical significance with either performance measure.

Overall, these findings partially confirm Hypothesis 1. The results support the presence of positive relationships between certain EI components—particularly motivation, social skills, and overall, EI—and both dimensions of academic performance. However, the strength and significance of these associations vary across specific EI dimensions, suggesting that not all facets of EI contribute equally to students' academic outcomes.

4.2.2. Hypothesis 2. There are significant differences in emotional intelligence scores depending on the students' gender.

The descriptive statistics show that mean scores for male and female students are relatively close across all emotional intelligence components (Table 4). For example, male students reported slightly higher mean scores for self-awareness (Mean = 40.22, SD = 9.66) compared to female students (Mean = 40.07, SD = 6.26), and higher social skills (Mean = 34.78, SD = 10.34) compared to females (Mean = 29.80, SD = 6.57). In contrast, females had slightly lower or similar means on self-regulation, motivation, and empathy.

Table 4. EI components and academic performance by gender

EI Component	Male students			Female students			H Statistic	p-value
	Mean	SD	N	Mean	SD	N		
Self-awareness	40.22	9.66	18	40.07	6.26	15	0.239	0.625
Self-regulation	33.17	7.33	18	31.13	4.5	15	0.788	0.375
Motivation	33.89	8.84	18	32.33	7.26	15	0.725	0.395
Empathy	32.94	8.63	18	32.13	5.15	15	0.357	0.550
Social skills	34.78	10.34	18	29.8	6.57	15	2.152	0.142
Task performance	27.33	5.03	18	24.93	6.56	15	0.759	0.384
Contextual performance	20.11	4.4	18	17.8	4.23	15	2.724	0.099

The Kruskal–Wallis test results indicated no statistically significant gender differences: self-awareness ($H = 0.239$, $p = 0.625$), self-regulation ($H = 0.788$, $p = 0.375$), motivation ($H = 0.725$, $p = 0.395$), empathy ($H = 0.357$, $p = 0.550$), and social skills ($H = 2.152$, $p = 0.142$). All p-values exceeded the 0.05 threshold, suggesting that gender does not differentiate EI scores in this sample.

The Kruskal–Wallis test revealed no statistically significant gender differences in task performance ($H = 0.759$, $p = 0.384$) or contextual performance ($H = 2.724$, $p = 0.099$). While the p-value for contextual performance approached the 0.05 threshold, it remained non-significant, indicating only a tendency toward higher scores among males.

In conclusion, Hypothesis 2 is not supported. The findings suggest that male and female students in this study have comparable emotional intelligence levels across all measured components, with no statistically significant gender-based differences.

4.2.3. Hypothesis 3. Grade level (7th vs. 8th) influences emotional intelligence scores and academic performance

The descriptive statistics indicate that mean EI scores are comparable across all dimensions for 7th-grade and 8th-grade students across all dimensions (Table 5). For instance, the average self-awareness score was 40.04 (SD = 8.55) for 7th graders and 40.40 (SD = 7.65) for 8th graders, while social skills averaged 32.09 (SD = 9.08) for 7th graders and 33.50 (SD = 9.42) for 8th graders. The Kruskal–Wallis test showed no statistically significant differences in EI components between the two grades (all $p > 0.05$).

Regarding academic performance, 7th graders had slightly higher mean scores for both task performance (Mean = 27.09, SD = 4.89) and contextual performance (Mean = 19.39, SD = 3.83) compared to 8th graders, who had mean scores of 24.30 (SD = 7.45) for task performance and 18.30 (SD = 5.70) for contextual performance. However, the Kruskal–Wallis test results for both task performance ($H = 1.534$, $p = 0.215$) and contextual performance ($H = 0.501$, $p = 0.479$) indicated that these differences were not statistically significant.

Table 5. EI components and academic performance by grade

EI Component	Grade 7			Grade 8			H Statistic	p-value
	Mean	SD	N	Mean	SD	N		
Self-awareness	40.04	8.55	23	40.4	7.65	10	0.4	0.652
Self-regulation	32.17	5.87	23	32.4	7.23	10	0.302	0.583
Motivation	33.3	6.88	23	32.9	10.75	10	0.139	0.709
Empathy	32.52	7.34	23	32.7	7.12	10	0.445	0.505
Social skills	32.09	9.08	23	33.5	9.42	10	0.472	0.492
Task performance	27.09	4.89	23	24.3	7.45	10	1.534	0.215
Contextual performance	19.39	3.83	23	18.3	5.7	10	0.501	0.479

In conclusion, hypothesis 3 is not supported by the analysis. The findings indicate that there are no significant differences in emotional intelligence scores or academic performance between 7th-grade and 8th-grade students in this sample. This suggests that within this age group, grade level does not have a substantial impact on students' emotional competencies or their measured academic outcomes.

4.2.4. Hypothesis 4. Students who receive scholarships score higher in emotional intelligence and academic performance compared to those who do not receive financial support

Descriptive statistics revealed small differences in emotional intelligence (EI) between the groups (Table 6). Scholarship recipients had slightly higher mean scores in self-awareness ($M = 40.57$, $SD = 8.40$) and motivation ($M = 33.86$, $SD = 7.34$) compared to non-recipients ($M = 39.84$, $SD = 8.21$; $M = 32.68$, $SD = 8.74$). Conversely, non-recipients scored marginally higher in self-regulation, empathy, and social skills.

Table 6. EI components and academic performance by scholarship

Variable	No Scholarship			Scholarship			H Statistic	p-value
	Mean	SD	N	Mean	SD	N		
Self-awareness	39.84	8.21	19	40.57	8.4	14	0.12	0.729
Self-regulation	32.89	6.39	19	31.36	6.05	14	0.075	0.784
Motivation	32.68	8.74	19	33.86	7.34	14	0.261	0.609
Empathy	33.21	7.45	19	31.71	6.93	14	0.161	0.688
Social skills	32.89	9.67	19	32	8.49	14	0.001	0.971
Task performance	23.79	6.35	19	29.57	2.56	14	8.882	0.003
Contextual performance	19.05	4.88	19	19.07	3.87	14	0.005	0.942

The results of Kruskal–Wallis test indicated no statistically significant differences in any component of EI component: self-awareness ($H = 0.120$, $p = 0.729$), self-regulation ($H = 0.075$, $p = 0.784$), motivation ($H = 0.261$, $p = 0.609$), empathy ($H = 0.161$, $p = 0.688$), and social skills ($H = 0.001$, $p = 0.971$).

However, a significant difference was found in task performance ($H = 8.882$, $p = 0.003$), with scholarship recipients outperforming non-recipients. This suggests that receiving financial support may be linked to better performance in direct academic tasks. In contrast, there was no significant difference noted in contextual performance ($H = 0.421$, $p = 0.516$).

In conclusion, hypothesis 4 is partially supported. While scholarships are not associated with higher scores in emotional intelligence, they are significantly associated with improved task performance, indicating that financial support may contribute to better results in measurable academic tasks.

4.2.5. Hypothesis 5. Participation in extracurricular activities is associated with higher scores in both emotional intelligence components and academic performance

Students who were involved in extracurricular activities such as sports, arts, foreign languages, or volunteering showed slightly higher mean scores in most EI components compared to those who did not participate (Table 7). For instance, the average score for social skills was 34.45 ($SD = 8.57$) for participants while non-participants averaged 29.54 ($SD = 9.31$, $H = 2.698$, $p = 0.101$). In terms of motivation, participants scored an average of 34.30 ($SD = 7.20$) compared to 31.46 ($SD = 9.29$) for non-participants ($H = 1.309$, $p = 0.253$). Although these differences were not statistically significant, the result for social skills approached significance. Other EI components showed smaller differences: self-awareness averaged 40.45 ($SD = 8.86$) versus 39.69 ($SD = 7.30$) for non-participants ($H = 0.493$, $p = 0.483$), self-regulation was 32.45 ($SD = 5.87$) compared to 31.92 ($SD = 6.91$) ($H = 0.660$, $p = 0.417$), and empathy scored 32.55 ($SD = 7.01$) for participants versus 32.62 ($SD = 7.69$) for non-participants ($H = 0.067$, $p = 0.796$).

Table 7. EI components and academic performance by extracurricular activities

Variable	No extracurricular activities			Extracurricular activities			H Statistic	p-value
	Mean	SD	N	Mean	SD	N		
Self-awareness	39.69	7.3	13	40.45	8.86	20	0.493	0.483
Self-regulation	31.92	6.91	13	32.45	5.87	20	0.66	0.417
Motivation	31.46	9.29	13	34.3	7.2	20	1.309	0.253
Empathy	32.62	7.69	13	32.55	7.01	20	0.067	0.796
Social skills	29.54	9.31	13	34.45	8.57	20	2.698	0.101
Task performance	23.77	7.61	13	27.85	3.66	20	3.42	0.064
Contextual performance	16.46	5.09	13	20.75	2.97	20	7.79	0.005

In terms of academic performance, participating in extracurricular activities was associated to a higher mean in task performance (27.85 ± 3.66) compared to non-participants (23.77 ± 7.61), with the difference approaching statistical significance ($H = 3.420$, $p = 0.064$). In contrast, the difference in contextual performance was statistically significant: with participants scoring an average of 20.75 ($SD = 2.97$) compared to 16.46 ($SD = 5.09$) for non-participants ($H = 7.790$, $p = 0.005$).

Overall, Hypothesis 5 is partially supported. While most components of emotional intelligence (EI) did not show significant differences, students involved in extracurricular activities tended to perform better academically, with a significant advantage in contextual performance and near-significant advantages in task performance and social skills. This suggests that participation in extracurricular activities may meaningfully enhance certain academic and interpersonal outcomes, even though its impact on emotional intelligence components is limited in this sample.

Out of the five hypotheses proposed, two were statistically confirmed, one received partial support, and the other two were not validated by the data. This distribution of results reflects the complex and multifaceted associations between emotional intelligence and academic performance indicators at the middle school level. Moreover, as shown in Table 2, while most variables met the assumption of normality, the task performance variable did not. Therefore, nonparametric methods were applied in subsequent analyses to ensure statistical validity.

5. Discussion

The present study examined the relationship between EI and academic performance among middle school students, along with potential differences based on gender, grade level, scholarship status, and extracurricular participation. The findings provide partial support for the initial hypotheses and align with previous research highlighting the multifaceted nature influence of EI on academic outcomes.

Consistent with prior meta-analyses (MacCann et al., 2020; Sánchez-Álvarez et al., 2020), results from Hypothesis 1 confirmed that certain EI components—specifically motivation, social skills, and self-regulation—were positively correlated with academic performance. Motivation emerged as the strongest predictor, showing significant associations with both task and contextual performance, supporting the idea that self-driven goal pursuit is a critical mediator between emotional competence and school achievement (Brackett et al., 2012; Rivers et al., 2012). Social skills also correlated significantly with both academic dimensions, underscoring the role of interpersonal effectiveness in fostering collaborative learning environments (Qualter et al., 2012). Hypothesis 2, which proposed gender-based differences in EI, was not supported. Male and female students demonstrated comparable levels of emotional competencies and performance outcomes, in line with findings suggesting that gender differences in EI may be minimal during adolescence when measured through self-report (Keefer et al., 2018). While prior research frequently indicates higher emotional intelligence among adolescent girls, the present case study did not reveal significant gender-based differences. This divergence may be due to factors such as the limited sample size, the specific cultural context, or the reliance on self-report instruments. Further investigations involving larger and more diverse populations are needed to clarify these inconsistencies.

Similarly, Hypothesis 3 revealed no significant differences in emotional intelligence (EI) or academic performance between 7th- and 8th-grade students. This suggests that within this narrow developmental range, grade level does not significantly affect emotional competencies. This finding contrasts with some developmental theories (Steinberg, 2014) predicting maturational gains in self-regulation and empathy during early adolescence but may reflect the influence of contextual factors such as school environment or teacher-student relationships (O'Connor et al., 2017).

Hypothesis 4 received partial support. While EI scores did not differ significantly between scholarship recipients and non-recipients, students with scholarships demonstrated significantly higher task performance. This indicates that financial support may enhance students' ability to meet academic demands, possibly by reducing stress or increasing access to learning resources (Radu et al., 2024b). However, no differences were found in contextual performance, indicating that financial incentives may have a greater influence on achievement more than prosocial engagement in school life.

For Hypothesis 5, participation in extracurricular activities was associated with significantly higher contextual performance and a nearly significant improvement in task performance. While most EI components did not show significant differences, social skills approached significance, suggesting that extracurricular engagement may indirectly enhance interpersonal competencies (Durlak et al., 2011; Taylor et al., 2017). Although extracurricular activities and parental involvement can help create environments conducive to emotional development, they should not be regarded as direct indicators of intrinsic emotional intelligence. Instead, these factors are more accurately viewed as moderating influences or contextual conditions that shape how emotional

intelligence is expressed. These findings are consistent with evidence that structured activities outside the classroom contribute to academic resilience and social-emotional development by promoting teamwork, discipline, and a sense of belonging (Brackett et al., 2012; Low et al., 2016).

Rather than uniformly providing “partial support” across all hypotheses, the findings reveal a more differentiated pattern: certain relationships (e.g., those outlined in Hypothesis 1 and 2) were statistically confirmed, while others did not achieve significance. These discrepancies may be attributable to the limited sample size, the contextual specificity of a single-school case study, or methodological constraints. Importantly, the lack of support for some hypotheses should not be interpreted as a discredit to the underlying theoretical framework; instead, it indicates that further research with larger and more diverse samples is required to clarify these associations. Overall, the results suggest that while not all dimensions of EI are equally predictive of academic performance, motivation and social skills are particularly important for both task and contextual effectiveness. Moreover, contextual factors such as financial support and extracurricular participation appear to influence academic outcomes, through different pathways.

These findings have practical implications for educational practice. Targeted interventions to enhance students’ motivational capacities and interpersonal skills—potentially integrated into social and emotional learning (SEL) programs—could lead to measurable academic benefits. Additionally, schools should consider expanding access to extracurricular activities and ensuring that scholarship programs are supported by initiatives that promote prosocial behaviours and classroom engagement.

6. Limitations of the Study and Perspectives

Several limitations should be noted when interpreting the findings of this study. First, since the sample was drawn from a single educational context, the generalizability of the results to other schools, regions, or cultural settings may be compromised. Specifically, this study relies on data from a single middle school, which limits the external validity of its findings. The case study design, the small sample size ($n = 33$), and the focus on a single geographic location restrict the broader applicability of the results. Therefore, the outcomes should be interpreted as exploratory and context-specific, providing insights into the relationship between emotional intelligence and academic performance within a particular educational setting. In contrast, broader cohort studies—such as MacCann et al. (2020), which analysed thousands of adolescents across multiple schools and contexts—provide more robust evidence regarding the association between emotional intelligence and academic achievement. By comparing our results alongside such large-scale investigations, we underscore that although this case study identifies meaningful links between emotional intelligence, contextual performance, and academic outcomes, further research involving larger and more diverse samples is essential to validate and extend these findings. It is important to note that, EI and academic performance are influenced by multiple contextual factors, including teaching styles, school resources, and community norms, which may differ across educational environments.

Second, the study relied on self-report measures for emotional intelligence, which can be influenced by social desirability bias and inaccurate self-perceptions (Keefer et al., 2018). Although validated instruments were used, future research would benefit from integrating multiple assessment methods, such as teacher evaluations or performance-based EI tests, to provide a more objective understanding of students’ emotional competencies.

Third, the cross-sectional design of the study precludes any causal inferences regarding the relationships observed between EI, academic performance, and contextual variables. Longitudinal studies are necessary to determine whether changes in EI lead to subsequent improvements in academic outcomes, or whether high-performing students develop stronger emotional competencies over time.

Fourth, while academic performance was evaluated using both task and contextual performance dimensions, these measures may not capture the full range of student achievement, such as creativity, critical thinking, or long-term academic persistence. Similarly, extracurricular

participation was measured in a binary format (yes/no), failing to account for variations in the frequency, duration, or type of activity, all of which might influence outcomes in different ways (Durlak et al., 2011). Future research should adopt more differentiated approaches that take into account specific activity domains (e.g., sports, arts, academic clubs), as well as the frequency and duration of participation, to more accurately assess their potential impact on emotional intelligence and performance outcomes. Furthermore, a significant limitation of the present study is the reliance on the 6–10 grading scale for evaluating student performance. This relatively broad measure may obscure meaningful differences among students and limit the precision of statistical analyses. Therefore, future studies would benefit from the use of more detailed and standardized performance indicators to enhance the validity of the findings.

Finally, some subgroup analyses (e.g., by scholarship status, gender, or extracurricular participation) involved relatively small sample sizes, which may reduce statistical power and the ability to detect smaller effect sizes. To strengthen the validity of future studies, it is essential to increase sample sizes and ensure balanced representation across groups. Another limitation concerns the potential impact of unobserved contextual factors, including family dynamics, parental involvement in extracurricular activities, and broader social trends. While such influences may facilitate the development of emotional competencies, they do not serve as intrinsic measures of emotional intelligence. Future research should therefore explicitly account for these variables in study design to ensure more accurate and controlled assessments.

To address these limitations, future investigations should focus on employing larger and more diverse samples drawn from multiple schools and socio-cultural contexts. Incorporating longitudinal designs would help clarify the directionality and causality of the relationships between emotional intelligence, academic performance, and contextual factors. Additionally, using a multi-method assessment approach—including performance-based EI tests, peer and teacher evaluations, and objective academic indicators—would provide a more comprehensive and accurate picture of students' abilities. Examining extracurricular participation in greater detail, such as differentiating between activity types, intensity, and duration, could reveal nuanced effects on both emotional and academic outcomes. Finally, intervention-based studies that experimentally enhance specific EI components, such as motivation or social skills, could determine their direct impact on academic achievement, informing evidence-based educational practices.

7. Conclusions

This study contributes to the growing body of research examining the role of emotional intelligence in academic performance among middle school students. The findings indicate that, while overall EI scores were not consistently predictive of academic success, specific components—particularly motivation and social skills—showed a positive association with both task and contextual performance. Additionally, contextual factors such as scholarship status and participation in extracurricular activities emerged as significant influences. Financial support was linked to improved task performance, while engagement in extracurricular activities correlated with notably higher contextual performance.

Although some of the hypothesized relationships were only partially supported, the results highlight the importance of considering both individual emotional competencies and the broader educational environment when aiming to enhance student achievement. The findings provide limited and selective support for the hypothesized associations between emotional intelligence and adolescent performance. While certain relationships were identified, others did not reach statistical significance, reinforcing the exploratory nature of this investigation. Consequently, the conclusions should be interpreted with caution and understood within the specific context of this case study. Educational practices that integrate the development of emotional skills with opportunities for engagement beyond the classroom—such as extracurricular activities—may promote both academic and socio-emotional benefits.

Taken together, these findings underscore that academic success is influenced not only by cognitive ability but also by motivation, interpersonal effectiveness, and the social contexts in which students learn. Targeted interventions and supportive school policies that address these areas may be particularly beneficial during middle school, a developmental stage characterized by rapid cognitive, emotional, and social growth.

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