
FULL-LENGTH ARTICLE**Enhancing Academic Outcomes: The Synergistic Effects of Emotional Intelligence and Achievement Motivation**Dagne Tafa^{1*} & Belay Tefera²¹Department of Psychology, Institute of Education and Behavioral Sciences, Ambo University, Ethiopia.²School of Psychology, College of Education and Behavioral Studies, Addis Ababa University, Ethiopia.*Corresponding author: dgntf1999@gmail.com**ABSTRACT**

The purpose of this study is to investigate the synergistic effects of emotional intelligence and achievement motivation on academic outcomes of university students. In order to address the research objectives, quantitative research design with the correlational approach was used. The data was collected from 126 students (with a response rate of 93.3%) using emotional intelligence and achievement motivation scales. The collected data were analyzed using both descriptive statistics (mean, frequency and percent) and inferential statistics (independent sample t-test, Pearson product-moment and multiple regressions). The findings revealed that students exhibited high levels of emotional intelligence, significantly exceeding the hypothesized mean, and demonstrated strong competencies across all emotional intelligence components. Additionally, students showed elevated achievement motivation, particularly in intrinsic motivation to know and extrinsic motivation identified, while amotivation was the least prevalent. Gender differences were evident, with female students outperforming males in both emotional intelligence and achievement motivation across all dimensions. Correlation analysis indicated a significant positive relationship between emotional intelligence and academic performance, particularly in managing one's own emotions and others' emotions, while achievement motivation also correlated strongly with academic performance. The coefficient of determination ($R^2 = .338$) suggests that approximately 33.8% of the variation in academic performance can be attributed to the combined effects of emotional intelligence and achievement motivation. These results underscore the importance of fostering both emotional intelligence and achievement motivation to improve academic success, suggesting that educational interventions should focus on developing these competencies among students.

Keywords: Academic Outcomes; Achievement Motivation; Addis Ababa University, Emotional intelligence; Ethiopia

INTRODUCTION

The quest for enhanced academic outcomes remains a paramount concern in educational psychology, particularly in developing contexts like Ethiopia. As educational systems strive to meet the demands of a rapidly changing world, understanding the factors that influence student success becomes critical. Two constructs that have garnered significant attention in this regard are emotional intelligence and achievement motivation (Manimozhi, & Srinivasan, 2018; Sabir & Thomas, 2020; Shukla et al., 2024). This study seeks to investigate the synergistic effects of emotional intelligence (EI) and achievement motivation on academic outcomes, positing that enhancing these factors can lead to improved educational performance among Ethiopian students.

Emotional intelligence, conceptualized by Mayer and Salovey (1997), refers to the ability to perceive, understand, manage, and regulate emotions in oneself and others. It has gained prominence in educational psychology due to its significant impact on students' academic performance and interpersonal relationships. Research indicates that students with higher emotional intelligence tend to

exhibit better academic performance due to their enhanced ability to cope with stress, navigate social interactions, and maintain motivation (Brackett et al., 2011). In the Ethiopian context, where students often encounter significant emotional and psychological challenges due to socio-economic factors, fostering emotional intelligence could be particularly beneficial.

Research conducted in Ethiopia supports the assertion that emotional intelligence positively correlates with academic performance. For instance, a study by Hailu, et al., (2024) examined primary school students in Southern Ethiopia and found that dimensions of emotional intelligence, such as self-regulation, empathy, and motivation, were strongly associated with academic achievement. Similarly, a study conducted by Gizaw (2021) indicated that emotional intelligence significantly influences students' academic success, emphasizing the importance of managing emotions for optimal academic performance. Furthermore, research focusing on high school learners revealed that emotional intelligence positively impacted writing performance, suggesting that EI not only affects general academic achievement but also specific skills such as writing (Hiluf & Alemu, 2024). These studies collectively underscore the critical role of emotional intelligence in enhancing educational outcomes, advocating for the integration of EI development into educational practices to foster better academic performance among Ethiopian students.

Achievement motivation is a critical psychological construct that significantly influences academic performance and student engagement in educational settings. Defined as the intrinsic drive to pursue success and excel in tasks, achievement motivation encompasses various components, including self-efficacy, goal orientation, and the desire to meet or surpass standards of excellence (Wigfield & Cambria, 2010). Research indicates that students with high achievement motivation tend to demonstrate greater persistence, higher academic performance, and a more profound commitment to learning (Robbins et al., 2004). For instance, a study by Hattie (2009) found that motivation is one of the strongest predictors of academic success, suggesting that students who are motivated to achieve are more likely to engage deeply with their studies and attain higher grades.

Achievement motivation is essential in determining educational achievements in Ethiopia. Ayele (2020) found that motivation levels among secondary school students were positively correlated with their academic achievements, particularly in mathematics and science, highlighting the importance of fostering both intrinsic and extrinsic motivation to enhance learning outcomes. Debele (2016) further emphasized that students' attitudes toward science education are critical; those with higher motivation tended to perform better academically. Additionally, Belay and Galata (2016) identified family structure as a key factor affecting academic motivation, suggesting that supportive family environments can enhance student engagement and commitment to their studies. These findings collectively indicate that addressing achievement motivation is essential for improving educational outcomes in Ethiopia.

The relationship between emotional intelligence and achievement motivation has been the focus of considerable research, revealing that these constructs can interact in ways that enhance academic outcomes. Emotional intelligence can influence motivation by enabling students to regulate their emotions and cope effectively with stress and setbacks (Mayer et al., 2004). For example, students with high EI are more likely to remain motivated and engaged in their studies, even when faced with challenges. Conversely, students who are highly motivated may actively seek to improve their emotional skills to navigate academic pressures effectively. Empirical evidence supports the notion that the combined effects of EI and AM lead to improved academic outcomes. A meta-analysis conducted by Schutte et al. (2001) demonstrated that students with high emotional intelligence and achievement motivation not only performed better academically but also exhibited greater resilience and adaptive coping strategies. In the Ethiopian context, where academic environments can be particularly challenging, the synergistic effects of these constructs are of paramount importance.

In Ethiopia, despite the growing interest in emotional intelligence and achievement motivation as predictors of academic success, there remains a significant gap in research focusing on their synergistic effects. Most studies have either examined these constructs separately or have not considered their interaction in relation to academic performance. Furthermore, existing literature often

overlooks the specific challenges faced by Ethiopian students regarding emotional regulation and motivational factors. This lack of comprehensive research limits educators' ability to implement targeted interventions that address both emotional intelligence and achievement motivation. Hence, this study aims to fill the existing gaps by investigating how emotional intelligence and achievement motivation interact to influence academic outcomes among Ethiopian students. By understanding these dynamics, educators and policymakers can develop targeted interventions that enhance both EI and motivation within schools. Such interventions could lead to improved academic performance, increased student engagement, and enhance overall educational experiences for learners in Ethiopia. Accordingly, this study mainly attempted to answer the following basic research questions:

1. To what extent do Ethiopian university students exhibit emotional intelligence and academic motivation, both in their entirety and across specific dimensions?
2. Is there a gender differences in emotional intelligence and achievement motivation among Ethiopian university students?
3. In what ways do emotional intelligence and achievement motivation interact to enhance academic outcomes among Ethiopian university students?
4. To what extent do emotional intelligence and achievement motivation synergistically influence academic outcomes among university students?

MATERIALS AND METHODS

Research Design

A quantitative approach with a correlational research design was used to systematically collect and analyze data. This design effectively assesses the relationships among multiple variables concurrently (Stangor, 2011). By gathering numerical data, the research captures trends and allows for generalizations to a broader population, providing deeper insights into the topic (Bryman, 2006).

Sampling Techniques

The participants in this study consisted of 2nd and 3rd year undergraduate psychology students at Addis Ababa University, including both regular and extension program students. A total of 203 students were initially considered, reflecting a diverse mix of male and female participants. The School of Psychology was selected for its large size and varied socio-demographic factors. To determine the sample size, Yemane's (1967) formula was applied, resulting in 135 students being randomly selected through stratified sampling. Ultimately, 126 students completed and returned the questionnaires, yielding a response rate of 93.3%.

Instruments

This study employed carefully adapted scales to collect data from participants, focusing on socio-demographic variables believed to correlate with key research variables. The instrument was divided into three sections: the first gathered socio-demographic information, the second assessed achievement motivation, and the third evaluated emotional intelligence. The socio-demographic section included questions on sex, Cumulative Grade Point Average (CGPA), and parental educational attainment.

The emotional intelligence component utilized the 33-item scale developed by Schutte, et al. (1998), which assesses various aspects of emotional intelligence as delineated by Ciarrochi et al. (2001). Specifically, it includes ten items measuring emotional perception, nine items evaluating the management of one's own emotions, eight items focused on managing others' emotions, and six items assessing the utilization of emotions. Responses were recorded using a five-point Likert scale, allowing participants to express their agreement with each statement.

The Academic Motivation Scale (AMS), developed by Vallerand et al., (1992), consists of 28 items divided into seven subscales that capture three primary dimensions: Intrinsic Motivation, Extrinsic

Motivation, and Amotivation. Each subscale includes four items. Participants rate their responses on a scale from 1 (not at all) to 7 (exactly corresponds), allowing for nuanced insights into their academic motivation.

Validity and Reliability of the Instruments

The questionnaires used in this study were adapted from a previously validated instrument. To ensure cross-cultural validity, the scales were translated into Amharic, the local language. Professionals with backgrounds in language and psychology performed forward translation, backward translation, and synthesis of the translated instruments. After confirming that there is a common agreement between backward and forward translators on the contextual meaning of each item's terms, the researchers, in collaboration with instructors and students, administered the questionnaires to gather data. The scales' reliability is shown in Table 1. The table shows that the Cronbach's alpha result of all items had values above 0.70 which implies the instrument has acceptable internal reliability.

Table 1. Internal consistency reliability of scales used in this study

Scales and Sub-scales	Cronbach's alpha on standardized items	Number of items
Academic Motivation Total	.942	28
Intrinsic Motivation	.919	12
Extrinsic Motivation	.865	12
Amotivation	.790	4
Emotional Intelligence Total	.824	33
Perception of Emotion	.741	10
Managing Own Emotion	.760	9
Managing Others Emotion	.807	8
Utilization of Emotion	.734	6

Data Analysis Techniques

Data analysis utilized both descriptive and inferential statistical methods. Descriptive statistics were employed to assess levels of emotional intelligence, achievement motivation, and academic outcomes among students. An independent t-test was conducted to identify statistically significant differences in mean scores related to demographic variables. To explore the relationships between achievement motivation, emotional intelligence, and academic outcomes, Pearson product-moment correlation was applied. Furthermore, multiple regression analysis was used to assess the synergistic effect of emotional intelligence and achievement motivation on students' academic outcomes. Finally, a path analysis was performed to assess the direct effects of exogenous variables on the endogenous variable, as well as the mediating role of the mediating variable.

RESULTS

This section analyzes the quantitative data collected from participants in line with the study's objectives, presenting the key findings in tables and figures accompanied by descriptions. The results are organized into four distinct sections. The first section summarizes the levels of Emotional Intelligence (EI) and Academic Motivation (AM) among the participants using descriptive statistics. The second section presents an analysis of the mean differences in AM and EI based on gender. The third section explores the relationship between AM, EI, and academic outcomes through Pearson's product-moment correlation coefficient and multiple regression analysis. Finally, the fourth section presents the path analysis.

Socio-demographic Characteristics of Respondents

The study targeted second- and third-year psychology students from Addis Ababa University. A total of 126 students were directly participated in the study. The profiles of the respondents are summarized in Table 2.

Table 2: Socio-demographic characteristics of respondents (n=126)

Variables	Categories	Frequency	Percent
Sex	Male	28	22.2
	Female	98	77.8
Fathers' Educational level	Secondary School and Below	32	25.4
	Certificate and Diploma	34	27.0
	Degree and above	60	47.6
Mothers' Educational level	Secondary School and Below	54	42.9
	Certificate or Diploma	35	27.7
	Degree and above	37	29.4

Table 2 outlines the demographic characteristics of the research participants, focusing on their gender and the educational attainment of their parents. Among the 126 individuals involved in the study, there was a higher representation of females compared to males. When examining the educational background of the fathers, it was noted that about 47.6% had achieved a first degree or higher, while a smaller group (25%) had completed only secondary school or lower levels of education. Additionally, about 27% fathers possessed certificates or diplomas. In contrast, the educational attainment of the mothers revealed that 42.9% had completed secondary school or lower, while 29.4% had obtained degrees or higher qualifications, and 27.7% held certificates or diplomas.

Exploring Magnitudes of EI & AM

To shed light on the magnitude of emotional intelligence and achievement motivation among the study participants, both in their overall forms and across their various aspects, descriptive statistical methods were utilized. The findings from this analysis are summarized in the following three tables, each accompanied by detailed interpretations of the results.

Table 3: Descriptive Analysis of Emotional Intelligence

Variables	Mean	Std. Deviation	Min.	Max.
Perception of Emotion	37.56	4.94	21.00	49.00
Managing Own Emotion	34.54	4.55	22.00	45.00
Managing Others' Emotion	29.79	4.12	12.00	37.00
Utilization of Emotion	22.78	3.77	12.00	29.00
Emotional Intelligence Total	124.67	13.19	68.00	149.00

The results indicated that university students demonstrated emotional intelligence above the hypothesized average (99). In terms of specific dimensions, students excelled in the "Perception of Emotion" component, followed by "Managing Own Emotions." Conversely, "Utilization of Emotion" exhibited the lowest performance, preceded by "Managing Others' Emotions." Overall, the findings suggested that the mean values for all components of emotional intelligence were assessed as high as shown in the Table 3.

Table 4: Descriptive Analysis of Achievement Motivation

Variables	Mean	Std. Deviation	Min.	Max.
Intrinsic Motivation to Know (IMK)	19.88	5.69	4.00	28.00
Intrinsic Motivation toward Accomplishment (IMTA)	16.03	5.14	4.00	28.00
Intrinsic Motivation to Experience Stimulation (IMES)	14.73	5.49	4.00	28.00
Extrinsic Motivation Identified (EMId)	19.10	5.73	4.00	28.00
Extrinsic Motivation Introjected (EMIn)	14.33	6.34	4.00	28.00
Extrinsic Motivation External Regulation (EMER)	14.55	5.71	4.00	28.00
Amotivation	6.89	4.67	4.00	28.00
Achievement Motivation Total	105.52	24.97	44.00	165.00

The results in Table 4 indicated that the academic motivation of university students was above the hypothesized average. Among the various dimensions of academic motivation, students exhibited the highest levels in "Intrinsic Motivation to Know," followed closely by "Extrinsic Motivation Identified." The lowest level of motivation was observed in the "Amotivation" component. Additionally, the scores for the other three components "Intrinsic Motivation to Experience Stimulation," "Extrinsic Motivation Introjected," and "Extrinsic Motivation External Regulation" were found to be quite similar. Overall, the findings suggested that "Intrinsic Motivation to know" and "Extrinsic Motivation Identified" were notably high, while the other components were assessed as moderate, with "Amotivation" reflecting very low levels.

Exploring Means Differences

Independent t-tests were conducted to investigate whether there were significant differences in the means of students' academic outcomes, Emotional Intelligence, and Achievement Motivation based on sex. Before performing these t-tests, Levene's test assessed the assumption of homogeneity of variance, confirming that the variance in scores was consistent across both groups.

Table 5: Achievement Motivation, Emotional Intelligence and Academic Outcomes across Sex

Variables	Sex	N	Mean	Std. Deviation	T	Sig. (2-tailed.)
Achievement Motivation	Male	28	90.00	26.70	-3.939	.000*
	Female	98	109.95	22.71		
Emotional Intelligence	Male	28	113.46	13.98	-5.698	.000*
	Female	98	127.87	11.11		
Academic Outcomes (CGPA)	Male	28	2.99	.57	-.728	.485
	Female	98	3.07	.54		

*P < 0.05

There was notable difference between male and female students in their mean scores for Achievement Motivation, Emotional Intelligence, and Academic Performance (Table 5). Specifically, there was a statistically significant difference in Achievement Motivation between the sexes. Similarly, a significant difference was observed in Emotional Intelligence. In contrast, no significant difference was found in Academic Performance between male and female students.

Table 6: Dimensions of Achievement Motivation across Gender

	Sex	N	Mean	Std. Deviation	T	Sig. (2-tailed)
Intrinsic Motivation to Know	Male	28	17.61	6.37	-2.444	.016
	Female	98	20.53	5.34		
Intrinsic Motivation toward Accomplishment	Male	28	13.64	5.34	-2.869	.005
	Female	98	16.71	4.89		
Intrinsic Motivation to Experience Stimulation	Male	28	11.68	4.85	-3.478	.001
	Female	98	15.60	5.37		
Extrinsic Motivation Identified	Male	28	15.07	6.25	-4.545	.000
	Female	98	20.26	5.03		
Extrinsic Motivation Introjected	Male	28	12.50	5.49	-1.742	.084
	Female	98	14.85	6.49		
Extrinsic Motivation External Regulation	Male	28	10.82	5.02	-4.165	.000
	Female	98	15.61	5.46		
Amotivation	Male	28	8.68	6.66	2.330	.021
	Female	98	6.39	3.81		
Intrinsic Motivation Composite	Male	28	42.93	15.26	-3.487	.001
	Female	98	52.85	12.67		
Extrinsic Motivation Composite	Male	28	47.07	15.46	-3.276	.001
	Female	98	57.10	13.95		

***P < 0.05**

The analysis presented in Table 6 indicates significant differences in overall intrinsic motivation and its dimensions between male and female students. Specifically, a substantial difference was found in Overall Intrinsic Motivation, with females scoring higher than males. Similarly, females also exhibited higher scores in Overall Extrinsic Motivation, reflecting a significant difference between the sexes. However, regarding Extrinsic Motivation Introjected, no significant difference was identified, even though females had higher scores. In terms of Amotivation, a significant difference was observed, with females scoring lower than males. The effect size for Amotivation was small, indicating a moderate impact for the other dimensions of motivation.

Table 7: Dimensions of Emotional Intelligence across Gender

Emotional Intelligences	Gender	N	Mean	Std. Deviation	T	Sig. (2-tailed)
Perception of Emotion (PE)	Male	28	34.96	4.95	-3.269	.001
	Female	98	38.29	4.70		
Managing Others Emotion (MOtE)	Male	28	27.46	4.55	-3.549	.001
	Female	98	30.46	3.75		
Managing Own Emotion (MOtE)	Male	28	31.29	4.91	-4.633	.000
	Female	98	35.47	3.99		
Utilization of Emotion (UE)	Male	28	19.75	4.21	-5.317	.000
	Female	98	23.64	3.16		

***P < 0.05**

The summary of analysis in Table 7 indicates significant differences in all dimensions of emotional intelligence between male and female students. Specifically, there was a notable difference in the Perception of Emotion, with females scoring higher than males. A similar trend was observed in Managing Others' Emotions, where females again outperformed their male counterparts. The analysis also revealed that females scored significantly higher in Managing Own Emotions and Utilization of Emotion. Overall, in each of the four dimensions assessed, female students demonstrated greater emotional intelligence than male students.

Exploring Relationships among Variables

The primary objective of this study was to explore the intricate relationship among university students' emotional intelligence, achievement motivation, and academic performance. To thoroughly investigate this dynamic interplay, the research employed both correlation and regression analyses. These statistical methods were specifically chosen to provide a comprehensive understanding of whether a statistically significant connection exists between these variables.

Correlation Analysis

This section outlines the findings from the Pearson Product-Moment Correlation analysis, which was conducted to explore potential correlations among the dimensions of emotional intelligence, achievement motivation, and academic performance. Accordingly, the accompanying table (Table 8) illustrates the correlation matrix for these variables, revealing generally positive associations between students' academic performance and the dimensions of emotional intelligence and achievement motivation.

Table 8: Correlation Matrix among Dimensions of AM, EI and Academic Performance

	1	2	3	4	5	6	7	8	9	10	11	12
1.CGPA	-											
2.PE	.172	-										
3.MoE	.281**	.462**	-									
4.MOwE	.284**	.315**	.475**	-								
5.UE	.090	.446**	.360**	.569**	-							
6.IMK	.403**	.214*	.393**	.523**	.503**	-						
7.IMA	.517**	.251**	.344**	.345**	.349**	.582**	-					
8.IMES	.370**	.260**	.473**	.304**	.374**	.543**	.621**	-				
9.EMId	.501**	.323**	.402**	.470**	.541**	.714**	.597**	.459**	-			
10.EMIn	.346**	-.096	.125	.034	.055	.117	.541**	.254**	.285**	-		
11.EMER	.460**	.023	.113	.265**	.167	.353**	.455**	.224*	.647**	.467**	-	
12.Amotivation	-.033	-.180*	-.152	-.220*	-.334**	-.289**	-.043	-.129	-.275**	.166	.015	-

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

As shown in the above table, among the dimensions of emotional intelligence, the components related to Managing Own Emotions and Managing Others' Emotions exhibited notable positive correlations with academic performance. In contrast, the dimensions of Perceiving Emotions and Utilization of Emotions showed positive correlations as well, but these were not statistically significant.

In terms of achievement motivation, all six dimensions demonstrated positive and statistically significant correlations with academic performance, with the exception of Amotivation, which reflected a weak, negative, and non-significant relationship. Specifically, the dimensions of Intrinsic Motivation to Know, Intrinsic Motivation toward Accomplishment, Extrinsic Motivation Identified, and Extrinsic Motivation External Regulation indicated strong positive correlations. Meanwhile, Intrinsic Motivation to Experience Stimulation and Extrinsic Motivation Introjected displayed moderate positive correlations. These findings underscore the intricate connections between emotional intelligence, achievement motivation, and academic success.

Table 9: Correlation Matrix among Major Variables

	1	2	3
Academic Performance (1)	-		
Emotional Intelligence (2)	.275**	-	
Achievement Motivation (3)	.581**	.432**	-

** . Correlation is significant at the 0.01 level (2-tailed).

The findings presented in the preceding table (Table 9) indicate a notable relationship between students' academic performance and both academic motivation and emotional intelligence. Specifically, a strong and positive correlation exists between academic motivation and academic performance, suggesting that as students' motivation to achieve academically increases, so too does their performance. In addition to academic motivation, emotional intelligence also demonstrates a significant and positive correlation with academic performance, although the strength of this relationship is moderate. This suggests that students who possess higher levels of emotional intelligence tend to perform better academically.

Multiple Regression Analysis

Prior to conducting the regression analysis, a thorough assessment of several critical assumptions was undertaken to ensure the validity of the results. These assumptions included the absence of multicollinearity, the presence of outliers, linearity, homoscedasticity, and the independence of residuals. To evaluate multicollinearity, a collinearity diagnosis was performed. The analysis revealed tolerance values exceeding the threshold, indicating that multicollinearity was not a concern. Additionally, the Variance Inflation Factor (VIF) values were found to be well below the acceptable limit, further confirming that the assumption of multicollinearity was satisfied. Furthermore, the assessment of outliers, linearity, homoscedasticity, and the independence of residuals was conducted through the use of Normal Probability Plots (P-P) of the standardized residuals, as well as scatterplots. These visual analyses demonstrated that the relevant assumptions were upheld, indicating that the data met the necessary criteria for conducting regression analysis. This comprehensive approach ensured the robustness of the findings in the subsequent analyses.

Table 10: Regression Coefficients of Emotional Intelligence and Achievement Motivation

	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std. Error	Beta	t	
(Constant)	1.595	.378		4.214	.000
Emotional Intelligence	.001	.003	.030	.368	.713
Achievement Motivation	.012	.002	.568	6.987	.000
R = .582	R² = .338	F_(2,123) = 31.464	P < .000		

As illustrated in Table 10, there is a highly significant relationship between the criterion variable and the predictor variables. The coefficient of determination indicates that a considerable proportion of the variation in the criterion variable, approximately one-third, is attributable to the combined effects of the predictor variables. When assessing the relative importance of each predictor, it is evident that achievement motivation emerges as a significant contributor to the regression model. This is reflected in its substantial coefficient, which highlights its influence on the outcome variable. In contrast, the coefficient for emotional intelligence was not found to be significant, indicating that it does not play a meaningful role in predicting the criterion variable in this analysis.

Path Analysis

The final substantial focus of this study was to investigate whether achievement motivation serves as a mediator in the relationship between emotional intelligence and academic performance. To explore this hypothesis, a path analysis was employed, which allowed for an examination of both the direct effects of the exogenous variables on the endogenous variable, as well as the mediating role of

achievement motivation. The findings from this analysis are detailed in the accompanying table and illustrated in the diagram below.

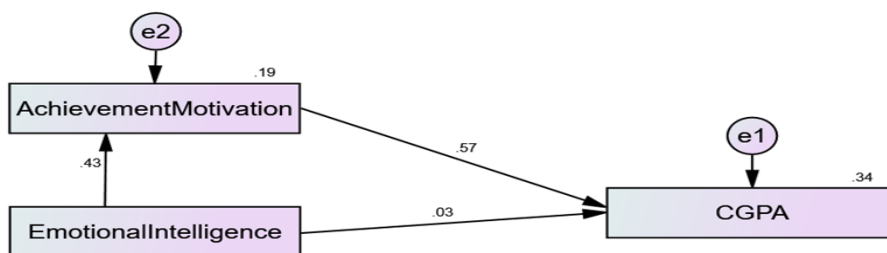


Figure 1: Standardized paths and parameters of the fit academic performance prediction model

Table 11: Direct and Indirect Effects of Exogenous Variables on Endogenous Variable

Variables	Direct Effects	Indirect Effects	Total Effects
Achievement Motivation	.568	.000	.568
Emotional Intelligence	.030	.245	.275

The results presented in Table 11 indicate that the indirect effect of emotional intelligence on students’ academic performance through achievement motivation is significant. Specifically, this effect shows that for every one standard deviation increase in emotional intelligence, academic performance increases by a corresponding amount in standard deviations. This finding confirms the mediating role of achievement motivation in the relationship between emotional intelligence and academic performance.

DISCUSSIONS

One of the research questions addressed by this study was to know the extent to which university students’ exhibit emotional intelligence and academic motivation, both in their entirety and across specific dimensions. Accordingly, the findings indicate that university students demonstrate high levels of academic motivation, suggesting that students possess a relatively high level of achievement motivation. This finding aligns with previous research that emphasizes the importance of motivation in academic settings. As reported by Ayele (2020), motivation significantly correlates with academic performance among secondary school students in Addis Ababa, where about one-third of students exhibited high levels of motivation, which positively influenced their academic outcomes. Regarding the components, the current study’s results highlighted that intrinsic motivation to know and extrinsic motivation identified are the dominant components of achievement motivation, with extrinsic motivation being the most prevalent. This finding is somewhat consistent with the work of Debele (2016), which indicated that extrinsic factors often play a significant role in motivating students in Ethiopian schools. However, it is noteworthy that the study found amotivation to be the least occurring component, which contrasts with findings from other studies indicating that amotivation can be prevalent among students who feel disconnected from their academic goals (Ryan & Deci, 2000).

Besides the second construct, the findings indicated that students have attained a high level of emotional intelligence, which is significantly above the hypothesized mean. This result aligns with study findings conducted on similar settings. For instance, a study by Gizaw (2021) found that health science students at Jimma University exhibited a strong emotional intelligence that positively

influenced their academic performance. Moreover, the study's breakdown of emotional intelligence components reveals that students scored the highest on the perception of emotions and the lowest on utilization of emotions. This pattern reflects findings from Nieto-Carracedo et al. (2024), which emphasize that while students may excel in recognizing and understanding their emotions, they may struggle with effectively utilizing these emotions in academic contexts. This discrepancy suggests that while students possess the foundational skills associated with emotional intelligence, there may be gaps in applying these skills to enhance motivation and academic strategies.

The study's findings corroborate a substantial body of literature indicating that women generally display greater emotional intelligence than men. Research by Joseph and Newman (2010) and Śmieja et al. (2014) found that women consistently outperformed men on various emotional intelligence measures. This supports the current study's conclusion that females are more emotionally intelligent than males. Additionally, the results align with D'Amico and Geraci (2022) which indicated that girls tend to score higher on both self-reported and ability measures of emotional intelligence. Meta-analyses further reinforce that women excel in emotional perception and understanding, demonstrating superior skills in recognizing and interpreting emotional cues (Rafiee & Schacht, 2023; Hertenstein & Keltner, 2011). However, while females scored higher overall, some studies report mixed results regarding specific emotional intelligence dimensions. For instance, Taibolatov et al. (2024) showed that emotional intelligence levels varied by class and gender, with males scoring higher on intrapersonal emotional intelligence, emotion management, and general emotional intelligence, while females scored higher on interpersonal emotional intelligence.

Previous research consistently indicates that female students exhibit higher levels of intrinsic motivation than their male counterparts. For instance, Shekhar and Devi (2012) found that female college students scored significantly higher on achievement motivation scales, reflecting a strong academic drive. Similarly, D'Amico and Geraci (2022) reported that female students often outperform males in academic settings due to their greater motivation and engagement. The current study's findings, which show that females score higher in both intrinsic and extrinsic motivation, align with the findings of Mubeen et al. (2013) and Kuśnierz et al. (2020), who found that female students scored higher on measures of internal motivation, such as the desire to learn and achieve academically, compared to males and often they pursue external validation through academic performance more than males do. This dual motivation enhances academic performance, as motivated students are more likely to set and achieve academic goals (Ryan & Deci, 2000). Interestingly, while the findings highlight the prevalence of intrinsic and extrinsic motivation among females, they also reveal a lower incidence of amotivation in females compared to males. This aligns with Turhan (2020), who indicated that boys often experience higher levels of amotivation due to societal pressures and stereotypes that discourage full engagement in academic pursuits.

The findings suggest a strong positive correlation between academic motivation and academic performance, indicating that increased motivation leads to improved academic outcomes. Additionally, emotional intelligence (EI) also correlates with academic performance, though the relationship is moderate. This aligns with existing literature that underscores the importance of both motivation and EI in educational settings. Research has consistently shown that academic motivation is a robust predictor of academic success. For instance, Schunk et al. (2014) found that motivation significantly influences students' academic achievements, emphasizing the critical role of intrinsic and extrinsic motivation in driving performance. Similarly, Wigfield and Eccles (2000) highlighted that students who are more motivated are more likely to engage in academic tasks effectively and achieve higher grades. Conversely, while the correlation between EI and academic performance is significant, the finding that EI does not have a substantial role in predicting performance may seem counterintuitive.

Some studies suggest that EI can enhance academic performance by fostering better emotional regulation and interpersonal skills (Parker et al., 2004). However, the current results indicate that, while EI is positively associated with performance, its contribution may be less direct compared to academic motivation. This contrasts with findings from MacCann et al. (2020), who conducted a meta-analysis indicating that EI is a valid predictor of academic success. The significant indirect effect of EI on academic performance through achievement motivation reinforces the notion that emotional intelligence contributes to academic success primarily by enhancing students' motivation. This mediating effect suggests that fostering EI could indirectly support academic outcomes by promoting a more motivated learning environment (Durlak et al., 2011). Similarly, Chang and Tsai (2022) found that emotional intelligence (EI) indirectly affects academic achievement by enhancing emotional well-being, which in turn improves learning strategies and performance.

CONCLUSIONS AND RECOMMENDATIONS

The general objective of this study was to investigate the synergistic effects of emotional intelligence and achievement motivation on enhancing academic outcomes among undergraduate university students. The findings indicate that university students demonstrate high levels of academic motivation and emotional intelligence, both surpassing the hypothesized mean. This suggests that students are engaged in their academic pursuits and possess the emotional skills necessary to navigate university life effectively. Such elevated levels of motivation and emotional intelligence are promising indicators of potential academic success and personal development. Further analysis regarding components revealed that students excel in Perception of Emotion and Managing Own Emotion, highlighting their ability to recognize and understand emotions. However, the lowest score was in Utilization of Emotion, indicating a struggle to apply emotional insights in decision-making, which suggests an area for growth in emotional intelligence training. In academic motivation, students scored highest in Intrinsic Motivation to Know and Extrinsic Motivation Identified, while Amotivation was notably low, reflecting strong engagement. Overall, these results underscore the need to cultivate both intrinsic and extrinsic motivations in educational settings, while also addressing areas for further development in emotional intelligence.

The findings indicate significant gender differences in achievement motivation and emotional intelligence among university students, with female students exhibiting higher levels of both attributes compared to their male counterparts. This suggests that females are not only more motivated to achieve academically but also possess greater emotional competencies, which may enhance their ability to navigate social interactions and academic challenges effectively. Further examination of intrinsic and extrinsic motivation components revealed that females scored higher in both overall intrinsic motivation and overall extrinsic motivation, with moderate effect sizes. These results highlight the importance of understanding how different types of motivation influence academic engagement among male and female students. Interestingly, the dimension of amotivation showed that females reported lower levels than males, suggesting a more proactive approach to their academic pursuits. In terms of emotional intelligence, females excel in all measured dimensions, demonstrating superior skills in perceiving, managing their own emotions, and managing others' emotions, with effect sizes ranging from moderate to large. These findings reinforce the notion that female students are generally more adept at recognizing and managing emotions, which can play a crucial role in their academic success and interpersonal relationships.

Moreover, the study confirms a significant positive correlation between emotional intelligence and academic outcomes, indicating that as students' emotional intelligence increases, so does their academic achievement. Specifically, managing one's own emotions and managing others' emotions were found to have statistically significant relationships with academic performance. However, the

dimensions of perceiving emotions and utilizing emotions did not show significant correlations, suggesting that while these skills are important, they may not directly translate into improved academic outcomes. Additionally, the findings reveal a strong link between achievement motivation and academic performance, emphasizing the need to cultivate both intrinsic and extrinsic motivations in students. All types of intrinsic motivation and extrinsic motivation positively correlate with academic performance, while amotivation was found to be negatively correlated. This highlights the necessity for educational interventions aimed at enhancing students' motivation levels to improve their academic outcomes. Furthermore, the findings regression analysis revealed a highly significant relationship between the predictor variables and outcome variable. It indicated that approximately 33.8% of the variation in academic outcomes can be attributed to the combined effects of emotional intelligence and achievement motivation. Notably, achievement motivation emerged as a significant contributor to academic success, underscoring its critical role in driving student performance. In contrast, emotional intelligence did not demonstrate a significant direct effect on academic outcomes, indicating that while it is an important aspect of student development, its influence may operate indirectly or through other mediating factors.

Based on these findings, several recommendations can be made to enhance academic outcomes through targeted interventions focused on emotional intelligence and achievement motivation. First, educational institutions should prioritize the development of achievement motivation among students by implementing programs that encourage goal-setting, self-regulation, and intrinsic motivation. This can be achieved through workshops and training sessions designed to help students identify their personal academic goals and develop strategies to achieve them. Second, while emotional intelligence did not show a significant direct effect in this study, it remains an essential skill for students' overall well-being and social interactions. Therefore, schools should integrate emotional intelligence training into the curriculum to foster skills such as self-awareness, emotion regulation, and interpersonal communication. These competencies can contribute to a positive learning environment and enhance students' ability to cope with academic challenges. Additionally, educators should consider individual differences when designing interventions. Tailoring motivational strategies to meet the diverse needs of students can help maximize their engagement and performance. For example, providing personalized feedback and recognizing individual achievements can significantly boost students' motivation levels. Lastly, further research is recommended to explore the potential mediating factors between emotional intelligence and academic performance. Longitudinal studies could provide deeper insights into how these constructs interact over time and contribute to sustained academic success. By implementing these recommendations, educational institutions can create a supportive environment that enhances both emotional intelligence and achievement motivation, ultimately leading to improved academic outcomes for all students.

STUDY LIMITATIONS

Since the results are based on a cross-sectional design, causal links cannot be established. Further studies using a longitudinal methodology may provide more understanding of the relationships among academic motivation, emotional intelligence, and student achievement. Furthermore, only Addis Ababa University students from a particular educational system participated in the study, which can limit the data's applicability in different settings.

CONFLICT OF INTEREST STATEMENT

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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