



# Are African academic women more emotionally intelligent than men? Exploring emotional intelligence, gender, and leadership in higher education

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## ABSTRACT

In recent years, organizational and management research has been reporting the presence of a systematic link between emotional intelligence (EI) and leadership effectiveness. Notwithstanding the practical significance, however, scholarly attention is far from adequate especially in the context of African higher education. Thus, taking Ethiopia as an example, this study investigates (a) gender differences in EI and (b) the relationship between EI and leadership style among leaders in selected higher education institutions. The study was conducted on 210 random samples of academic leaders (135 men and 75 women). Data was generated using an adapted measure Emotional and Social Competence Inventory (ESCI) to assess leaders' emotional intelligence (EI), while the Multifactor Leadership Questionnaire (MLQ-5x) was used to measure leadership styles. The findings show a strong positive relationship between emotional intelligence and transformational leadership, but no relationship was found between EI and transactional leadership. On the other hand, a significant negative correlation was found between laissez-faire leadership and leaders' total EI scores. Furthermore, the study finds significant gender differences in emotional intelligence, with female leaders scoring higher in overall emotional intelligence and most of the EI components. These findings suggest that EI is the female leadership advantage. We strongly advise university administrators and policymakers to incorporate EI as a criterion for the recruitment, selection, and promotion of academic leaders to close the gender gap in higher education leadership.

## 1. Introduction

The landscape of higher education (HE) has changed rapidly and disruptively since the turn of the 21st century, making it essential for colleges and universities to identify and hire astute individuals who can successfully lead change initiatives and guide faculty, staff, and students toward success. In the past, effective leadership in higher education was associated with the mastery of the subject area, publishing in scholarly and other scientific journals, conference presentations, and oversight of student research [1]. However, in the last few years, there has been a growing recognition of the importance of emotional intelligence in academic leadership. Emotional intelligence (EI) refers to the ability to identify, understand, and regulate one's own emotions as well as those of others [2]. It is a

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crucial leadership skill that enhances decision-making, communication, and interpersonal interactions. This suggests that superior performance is achieved when individuals are adept at recognizing and managing emotions within themselves and others. Today's most sought-after leaders are those who have effectively combined strong emotional intelligence with effective leadership. Despite much interest in relating EI to effective leadership, there has been little research published that has explicitly studied this relationship, particularly in the Ethiopian higher education context. It is this emergent quantum that is the primary focus of this research investigation.

Like in most African countries, higher education (HE) is a relatively new phenomenon in Ethiopia, having only been around for a few decades [3]. Despite this, Ethiopia's higher education sector has undergone significant changes recently as a result of rapid expansion, rising societal demands, and policy changes by the government. Even with its rapid expansion, the industry still faces many obstacles, including inadequate funding, rising quality concerns, student population growth, brain drain, a lack of academic freedom and institutional autonomy, and inadequate facilities and infrastructure [3,4]. Despite the need for more institutional leadership to address these challenges, leadership itself has been a major challenge in Ethiopian universities and colleges. Most people agree that strong and capable leadership is essential to the success of higher education (HE) institutions. That being said, it is also acknowledged that to effectively lead a higher education institution, one must possess certain leadership competencies that set them apart from leadership in other contexts. Uncertainty exists regarding the factors that contribute to effective leadership in higher education. Added to that, the capacity for effective leadership in the Ethiopian HE has not been fully in evidence and is still a matter evolving over the past two and a half decades. And it is this emergent trend that is the primary focus of the present article.

One variable that has been recently identified as a potential underlying attribute of successful leadership is the concept of emotional intelligence. Researchers [2,5,6] claim that EI is twice as good as IQ and technical skills at predicting effective leadership performance. They went on to say that leaders with high EI use their positive emotions to make better decisions and lead effectively in business settings. In addition, a leader with high emotional intelligence can inspire others to achieve greatness by demonstrating empathy, attentive listening, and effective communication. Emotionally intelligent leaders foster trust and rapport by empathizing with team members' emotions and needs, creating a positive, supportive work environment where they feel valued and appreciated. There is also sound evidence that suggests emotional intelligence is a highly relevant skill for leadership in higher education [7–9]. For instance, in a study of the relevance of emotional intelligence for academic leadership, Parrish [8] discovered that emotional intelligence in leaders fosters a positive work culture within an organization, thereby enhancing job satisfaction, efficiency, and productivity. Leaders with EI stimulate growth, innovation, and creativity in the organization. They continuously inspire their team members to perform to the best of their abilities. This suggests that just as those lacking emotional intelligence can impede the advancement of higher education, leaders possessing higher EI can have a major impact on its success.

Previous studies [10–13] show that all components of transformational leadership (TFL) are positively related to EI. Transformational leaders focus on changing followers' attitudes and beliefs and engaging them on a deep emotional level rather than telling them what to do. They inspire their teams to be innovative and creative. Employees regard them as role models and are frequently motivated to follow in their footsteps. They do not micromanage; rather, they foster an environment of employee autonomy and ownership. Lee and associates [11] suggest that transformational leaders can effectively identify and manage emotions, express them, use emotional knowledge in problem-solving, and communicate with others.

Other studies, however, revealed either a negative or no relationship between EI and leadership styles. For example, Chatterjee and Kulakli [14] claimed that people with high EI are not more likely to have transactional or laissez-faire leadership styles. Similarly, Hebert [15] discovered a negative association between EI and laissez-faire leadership. Other researchers [12,16] have found that contingent reward in transactional leadership is strongly related to emotional intelligence dimensions, implying that contingent reward may overlap with some TFL components. This calls for further research in this area.

Lastly, there has been little research on how emotional intelligence varies between genders, and even more intriguingly, inconsistent results have been reported worldwide. For instance, research by Cabello [17], Joseph and Newman [18], Fida et al. [19], and a more recent study by Bosson et al. [20] all demonstrate that women typically have higher emotional intelligence scores than men. However, no discernible gender differences in EI were discovered by researchers such as Hopkins and Bilimoria [21], Delgoda and Weerasinghe [22], and Mynt and Aung [23]. It's interesting to observe that research on gender, leadership, and emotional intelligence has generally produced contradictory findings, pointing to the need for additional study to ascertain whether these relationships exist.

Despite much interest in understanding the relationship between EI, gender, and leadership, little research has been done to unravel the apparent relationship, particularly in the context of higher education in sub-Saharan Africa. It is currently not well known how and to what extent EI accounts for effective leadership in higher education. This study aims to add further empirical support to such a contentious area of leadership research by examining the interactions between emotional intelligence, leadership style, and gender in the setting of higher education. The study will also advance our understanding of emotional intelligence and leadership by highlighting the importance of emotional intelligence for academic leadership. In doing so, the study addresses the following research inquiries.

- Is there a meaningful difference in EI between female and male academic leaders?
- Does EI (emotional intelligence) empirically related to transformational and transactional leadership styles?
- Does passive-avoidant leadership behavior (operationalized by laissez-faire leadership style) systematically related to EI?

The remaining part of this article provides a comprehensive overview of theoretical and empirical literature reviews and outlines research methodology, results, analysis, implications, limitations, and conclusions.

## 2. Theoretical Framework and Empirical Reviews

This study was based on [24] mixed model of emotional intelligence (EI) and Bass and Avolio's [25] full-range theory (FRT) of leadership. Goleman's mixed model identifies four EI components: personal competencies and social competencies. In his mixed model, Goleman identifies four emotional intelligence components essential for workplace performance: self-awareness, self-management, social awareness, and relationship management, which are classified as personal and social competencies. Self-awareness is the ability to acknowledge our emotions, understand our ingrained emotional reactions to situations, and acknowledge how our emotions impact our behavior and performance. When we are self-aware, we see ourselves as others see us, and have a good sense of our current strengths and weaknesses. Self-management involves effectively controlling emotions, thoughts, and behaviors to take responsibility for actions and avoid hasty decisions, preventing regrets later.

Goleman [24] identified social awareness as the third EI element, enhancing individuals' ability to sense, understand, and respond to others' feelings, enabling impartial evaluation and decision-making. Managing relationships is the fourth component of Goleman's mixed model of emotions. Relationship management involves fostering robust team relationships through effective emotional handling and the use of social skills like active listening, communication, leadership, and persuasiveness. Research indicates that social skills like active listening, effective communication, respecting others, and persuasiveness are crucial for leaders to build strong team relationships [5,6,8].

On the other hand, the full-range theory (FRT) of leadership is made up of nine components: five transformational, three transactional, and one non-transactional (*laissez-faire*) leadership dimension. According to this theory, transformational leaders (TFL) are individuals who inspire, motivate, and thrill their followers, thereby gaining their trust and confidence [25]. They use idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration to act as role models. The term "idealized influence" is made of two components idealized attributes and idealized behaviors. Idealized attributes refer to the charisma of the leader that makes him appear certain, strong, and committed to higher-order ideas and ethics. Through this attribute, the leader serves as an example for the followers, encouraging them to follow suit and earning their trust and respect in the process. On the other hand, idealized influence behavior describes the leaders' great conduct and readiness to forego their personal needs to advance their workgroup's goals [12].

Inspirational motivation is the second most important characteristic of transformational leaders, which is their ability to communicate an inspiring and compelling vision to their followers. This type of leader energizes their followers by having a positive outlook on the future, emphasizing ambitious goals, presenting an idealized vision, and assuring followers that the vision is attainable. These kinds of leaders inspire others around them by giving their followers work purpose and challenge [11], allowing them to go above and beyond what is expected of them. Intellectual stimulation is the third TFL leadership attribute that encourages innovation, creativity, and a tolerant environment for followers. Transformational leaders can use intellectual stimulation to challenge old assumptions, take risks, and request ideas from their followers. The last component in TFL leadership is Individualized consideration. Through individualized consideration, leaders contribute to follower satisfaction by guiding, supporting, and attending to their particular needs, allowing people to develop and self-actualize [10,13].

The second component of the FRT model of leadership is transactional leadership (TSL). Transactional leaders use rewards and punishment to strike deals with followers and shape their behavior as opposed to transformational leaders, who rely on their personal qualities to manage them [16,26]. As a result, depending on the follower's performance, they either offer a reward or punishment. With this leadership approach, the leader rewards the follower for carrying out particular behaviors. Three elements make up transactional leadership: Contingent reward, management-by-exception-Active (MBE), and MBE-Passive [25]. A contingent reward measures how well a leader sets up positive interactions or exchanges with followers by setting clear expectations, determining the rewards for meeting these expectations, and giving followers material or psychological benefits in exchange for meeting commitments. Management-by-Exception (MBE-Active) describes the ability to specify compliance requirements, what constitutes ineffective performance, and what should be done in the event of non-compliance; and Passive-MBE is used to characterize a leader's behavior who does not actively track performance and only steps in when mistakes or noncompliance have already occurred. Earlier studies [16,26] assert that active MBE is likely to be more effective than passive MBE.

The third component of the FRT is *laissez-faire* leadership (LFL) which reflects the absence of transactions of all sorts about leadership [12,25]. *Laissez-faire* leaders steer clear of defining agreements, outlining expectations, and setting expectations for their followers to meet certain standards. This is an example of avoidance or absence of leadership, and people who exhibit this style of leadership avoid making decisions, delay taking action, and are absent when needed.

### 2.1. Emotional intelligence and leadership

Recent studies on emotional intelligence and leadership have linked effective leaders to those who exhibit transformational leadership behaviors [5,6,10]. These studies show that TFL predicts a variety of outcomes, including follower job satisfaction, leader effectiveness ratings, organizational performance, and follower motivation. Other researchers [11–13] affirmed that emotional intelligence has a substantial positive link with at least three aspects of TFL, including idealized influence, inspiring motivation, and individual concern. Moreover, the self-control and self-management aspects of leaders' emotional intelligence were found to be congruent with idealized influence. Leaders who are supportive of their followers and who are aware of their own and others' emotions increase the followers' respect for them.

On the other hand, transactional leaders rely on followers' compliance with their orders, offering payment or salary in exchange for doing as instructed. Research [16] shows contingent reward, a part of Transactional leadership (TSL), correlates with EI at a level

similar to that of transformational leadership, implying that this dimension may be another sub-component of Transformational Leadership. The third component, laissez-faire leadership, negatively impacts emotional intelligence and effectiveness. People with low EI are unlikely to be effective. Hebert [15] asserts that there is a negative correlation between laissez-faire leadership and emotional intelligence, meaning that leaders who shirk responsibility, neglect to follow up on requests for help, avoid taking on new tasks, and suppress their opinions are more likely to struggle to recognize their own emotions and feelings, comprehend the emotions of others, and successfully regulate their own emotions at work.

## 2.2. Gender differences in emotional intelligence

Gender differences in EI may be influenced by a combination of social and biological factors. In the socializing process, females are taught to be more emotionally expressive, empathic, and cooperative, whereas males are pushed to be more competitive, assertive, autonomous, and less emotional [27]. Thus, one reason for the gender variation in EI could be that men and women are socialized differently. According to Petrides and Furnham [28], gender is a social process in which certain behaviors are more associated with men or women. For example, aggression is a typical masculine trait, whereas empathy is a desirable female trait. Early social experiences in girls foster a stronger value for caring and human connection, enabling them to develop more EI skills. In short, studies show that socialization significantly influences women's EI abilities [29,30]. However, biological variations between men and women may also contribute to gender disparities in emotional intelligence. According to Joseph and Newman [18], female biochemistry is more sensitive to one's own and other people's emotions as a survival mechanism. Certain areas of emotional processing in female brains are larger than corresponding areas in males, resulting in differences in cerebral emotional processing [31], and leading to gender variation in EI.

Several studies, such as [17,18,19,20, and 32] reported that women may have a little advantage over men in overall EI and most of its components. However, other research studies [21,22, and 30]; found no appreciable differences between men and women in terms of total EI. In some circumstances, it's interesting to note that males scored higher on emotional tests than females in domains like emotional self-regulation and emotional self-awareness [33]. In some other circumstances, females tend to score higher both in overall EI and its components. For instance, the results of a study on Spanish adults showed that gender affected the total ability EI score as well as the scores on the four EI branches, with overall EI being higher in females than in males [17]. The above discussion generally indicates that previous studies on emotional intelligence and leadership, as well as gender differences in EI, are inconclusive and warrant further research in this field. This study, therefore, aims to explore the correlation between EI, gender, and leadership in higher education to fill a gap in the existing literature.

## 3. Materials and Methods

This study utilized a correlational research design to establish the link between the constructs (EI, gender, and leadership) without manipulating variables, ensuring results generalization, reproducibility, control for alternative hypotheses, and bias protection. This form of study ensures better result generalization and reproducibility, controls for alternative hypotheses, and bias protection [34].

**Table 1**  
Demographic characteristics of the respondents.

Characteristics	Category	Frequency	Percentage
Gender	Male	135	64.3
	Female	75	35.7
Age (years)	21–30	30	14.3
	31–40	95	45.2
	41–50	73	34.8
	51 and above	12	5.7
	Other	8	3.8
Marital Status	Single	52	24.8
	Married	150	71.4
	Other	8	3.8
Educational Level	BA degree	26	12.4
	MA degree	130	61.9
	Ph.D. degree	54	25.7
	Other	15	7.2
Work Experience (years)	0–5	15	7.2
	6–10	45	21.4
	11–15	100	47.6
	16 and above	50	23.8
Leadership position	Deans	11	5.2
	Vice-deans	22	10.5
	Department heads	66	31.4
	Coordinators/Supervisors	111	52.9
	Other	8	3.8

Note: n = 210.

### 3.1. Sample and sampling procedures

A multi-stage sampling technique was used to select academic leaders from various colleges and departments at Hawassa University. This sampling technique is often more practical for studies requiring the selection of samples from different layers or categorizations [34]. The study included ten colleges and one institute offering regular, extension, and summer programs, and six departments from each college were randomly selected. The study considered the social science and natural science dichotomy when choosing departments. Once the target colleges and departments were identified, 210 academic leaders (deans, associate deans, department heads, and coordinators) were invited to take part in the study. The sample leaders comprised 75 women and 135 men.

Male leaders were selected using simple random sampling, while female leaders were chosen using snowball sampling. We argue that simple random sampling ensures equal chances for all members of a population to be included in a sample. On the other hand, snowball sampling is an effective method in qualitative research for studying small, hard-to-reach populations such as women in leadership positions. Given the prevalence of men in leadership positions, we strongly believe that snowball sampling is an appropriate method to identify the few women in leadership roles at Hawassa University. The snowball sampling procedure starts with a single subject providing information about another subject, and the chain continues with only one referral from that subject. Accordingly, we first contacted female leaders we knew and asked them to recommend other potential participants. This pattern continued until sufficient subjects were available for the sample. Table 1 provides a summary of the demographic characteristics of the study participants.

Table 1 shows that 35.7 % of the respondents were female, highlighting the prevalent underrepresentation of women in leadership positions in Ethiopian higher education institutions. In analyzing age, it was noted that the largest age category comprises those 31–40 years of age, which represents 45.2 % of the overall sample. Ages 41 to 50 make up the next-largest group of respondents (34.8 %). Married respondents make up 71.4 % of the sample as a whole; whereas 24.8 % of the total participants are respondents who identify as single. The remaining 3.8 % of respondents identify as other (divorced or widowed). In terms of work experience; respondents with 11–15 years of service make up the majority of the sample (47.6 %), outnumbering those with less than five years (7.2 %) and those with more than 15 years (23.8 %). The demographic diversity of the respondents was advantageous because it enriched the data.

### 3.2. Data collection instruments

This study used the Emotional and Social Competence Inventory (ESCI) and the MLQ-5x to measure leaders' emotional intelligence and leadership styles, respectively.

#### 3.2.1. Emotional intelligence of leaders

A modified self-report version of the Emotional and Social Competency Inventory (ESCI) was used to measure leaders' emotional intelligence (EI). The original ESCI is a 72-item questionnaire that assesses self-awareness, self-management, social awareness, and relationship management abilities [35]. However, for the sake of this study, we adapted 26 items using Principal component factor analysis (PCA). Factor analysis helps to reduce a large variable into a smaller variable factor. Much like cluster analysis, it helps to identify items that measure similar variables and avoid duplicates. This technique extracts the maximum common variance from all variables and puts them into a common score. In the SPSS procedure, the values of those items with factor loadings greater than 0.5 were deemed significant and included in the survey instruments [36].

Leaders self-rated their emotional quotient using a 5-point Likert-type scale. The total average score of each EI cluster was calculated by summing raters' scores and dividing by the number of questions. The overall average EI score of an individual leader was obtained by combining their self-assessment average scores across all clusters and dividing by four. The EI scores were interpreted using the ESCI user guide [35].

#### 3.2.2. Leadership styles

The Multifactor Leadership Questionnaire (MLQ-5x) was utilized to evaluate academic leaders' leadership styles. The MLQ, developed by Bruce J. Avolio and Bernard M. Bass [25], is a tool used to evaluate the full range theory of leadership. The MLQ, consisting of 36 items and nine scales, evaluates three leadership styles: transformational, transactional, and passive/avoidant behavior. It takes approximately 20 min to complete. We asked the sample leaders to rate themselves on a 5-point Likert-type scale ranging from 0 (never) to 4 (often, if not always). The mean score for each leadership dimension was derived by taking the average ratings for all raters for each item and dividing the result by the total number of raters.

#### 3.2.3. Reliability and validity of the instruments

A pilot test of the ESCI and MLQ instruments was conducted on 52 non-participant respondents, revealing acceptable reliability based on Cronbach's alpha values. The ESCI subscales' internal consistency estimations, ranged from 0.79 to 0.85, and Cronbach's alpha values for the MLQ subscales ranged from 0.76 to 0.83. This indicates that their internal consistency reliability generally surpasses the recommended minimum standard of 0.70 [36]. In addition, ESCI and MLQ have been extensively utilized in numerous studies to assess leadership behaviors and emotional intelligence [2, 5 35].

The construct validity of the ESCI and MLQ was analyzed through confirmatory factor analysis. The results showed a root mean square error of approximation (RMSEA) of .04, confirming the validity of the instruments. We also consulted subject matter experts (SMEs) to ensure the content validity of the instruments, evaluating each component's relevance and representativeness of the targeted construct.

### 3.3. Method of data analysis

The study utilized statistical techniques like descriptive statistics, Pearson's correlation analysis, least-square regression, and one-way MANOVA (Multivariate Analysis of Variance) to analyze the dataset. The ESCI and MLQ were analyzed using means and standard deviations to determine the center value in the dataset. Pearson's correlation analysis was used to explore the relationship between emotional intelligence (EI) and leadership styles, while least-square regression analysis was employed to predict EI components and leadership style dimensions. Furthermore, one-way MANOVA was used to determine gender differences in emotional intelligence between male and female leaders. MANOVA allows dependent variables to be correlated and is more powerful than an independent sample *t*-test for detecting group differences [36]. In the MANOVA procedure, gender was used as the independent variable, while total EI and average scores on EI components were considered dependent variables.

## 4. Results

Two hundred and ten academic leaders (135 male and 75 female) promptly completed and returned the survey questionnaires, and their replies were used in this study. Data were analyzed using IBM SPSS Statistics, version 23. The means (M) and standard deviations (SD) computed for the ESCI and MLQ-5X self-assessment tools are presented in Table 2. A higher mean score indicates a higher level of emotional intelligence (EI) for the respondent. The mean scores show female academic leaders scored higher in overall emotional intelligence ( $M = 4.99$ ,  $SD = 0.34$ ) than their male counterparts ( $M = 4.05$ ,  $SD = 0.36$ ), indicating significant gender variations in EI, as measured by the ESCI self-report tool.

### 4.1. Gender differences in leaders' emotional intelligence

We conducted a one-way multivariate analysis of variance (MANOVA) to compare the mean scores of men and women on the ESCI. MANOVA is a statistical method that enables the correlation of dependent variables and is more effective than an independent sample *t*-test in detecting group differences [36]. The MANOVA procedure was used to analyze gender as an independent variable, while overall EI and its components (self-awareness, self-management, social awareness, and relationship management) were the dependent variables. All parametric test assumptions were verified. When we decided to analyze the data using a one-way MANOVA, part of the process was making sure that the data we wanted to study met all statistical assumptions, including, normality, linearity, sample adequacy, and multi-collinearity. To that effect, we explored the data to check that all parametric test assumptions related to the application of one-way MANOVA. Then first, the data checked if it fulfills the normality assumption plotting a scatter-plot if the data follows a normal probability distribution, with each group being distributed based on the group mean. Second, we ensured that the dependent variables (EI and its four components) were continuous and the independent variable (gender) was categorical. Third, we checked for the adequacy of the sample. Accordingly, the study used 210 participants, which is 42 times the number of dependent variables, which suggested that the sample was adequate. Fourth, the multi-collinearity and singularity assumptions were also met as all dependent variables had a correlation below 0.6. Finally, the assumptions of homogeneity of variance and equality of error were satisfied as shown in the table below (see Table 3).

The results in Table 4 show that male and female academic leaders show a significant gender difference in total EI ( $F [4, 205] = 15.39$ ,  $p < .01$ ,  $\eta^2 = 0.27$ ), meaning that gender accounted for 27% of the variance in overall emotional intelligence. By Cohen's standard, this was a large effect size. Cohen [37] proposed the F-test effect size interpretation as  $F = 0.10$  (small effect),  $0.1-0.25$  (medium effect), and  $0.25-0.40$  (large effect).

Also, men and women did tend to differ in self-awareness ( $F [1, 208] = 6.87$ ,  $p = .02$ ,  $\eta^2 = 0.04$ ), social awareness ( $F [1, 208] = 10.87$ ,  $p = .004$ ,  $\eta^2 = 0.4$ ), and relationship management skills ( $F [1, 208] = 17.79$ ,  $p = .001$ ,  $\eta^2 = 0.21$ ). In all instances, female academic leaders scored higher than their male counterparts. On the self-management subscale, however, male academic leaders performed better ( $F [1, 208] = 12.63$ ,  $p = .005$ ,  $\eta^2 = 0.19$ ). Overall, the study shows that women leaders outperform their male counterparts in total EI and most of its components.

**Table 2**  
Means, standard deviations, and reliabilities for variables included in the study.

Measures	N = 210	Male = 135		Female = 75		Mean difference
	Cronbach $\alpha$	M	SD	M	SD	
Total EI	.82	4.05	.36	4.99	.34	.94
Self-awareness	.80	3.65	.34	3.90	.32	.25
Self-management	.85	4.76	.37	3.66	.39	1.1
Social awareness	.79	3.89	.33	5.29	.35	1.4
Relationship management	.81	4.17	.41	5.87	.43	1.7
Transformational leadership	.83	4.21	.36	4.97	.37	.76
Transactional leadership	.76	4.94	.31	3.90	.32	1.04
Laissez-faire leadership	.81	3.69	.34	3.53	.33	.16

Note: Mean score interpretations; Low = [3.0–4.0], Medium = [4.0–5.0], High = [5.0 and above].



**Table 3**

Levene's test of equality of error variances.

Dependent variables	F**	df1	df2	p
Self-awareness	.02	1	208	.37
Self-management	.15	1	208	.49
Social-awareness	.04	1	208	.22
Relationship management	.01	1	208	.43

Note: df = degree of freedom, ns\* = statistically non-significant; \*\* All F values are less than 1, thus, all are not statistically significant  $P < .05$ .

**Table 4**

Results of the MANOVA for gender differences in EI and its components.

Source	Dependent variables	F	P*	$\eta^2$
Gender	Self-awareness	6.87	.02	.04
	Self-management	12.63	.009*	.19
	Social-awareness	10.87	.004*	.40
	Relationship management	17.79	.001*	.21
	Overall EI	15.39	.005*	.27

Note: Significant at  $p^* < 0.01$ ,  $\eta^2$  = effect size; small effect size ( $\eta^2 = 0.10$ ), medium effect size ( $\eta^2 = 0.10-0.25$ ), and large effect size ( $\eta^2 = 0.25-0.40$ ).

#### 4.2. Does emotional intelligence predict leadership styles?

Pearson correlation coefficient ( $r$ ) was used to analyze the correlations between the variables in the study (see Table 5). The findings show a positive correlation between transformational leadership and total emotional intelligence ( $r = .585, p < .01$ ), but no relationship between transactional leadership and total emotional intelligence. However, a significant association was found between contingent rewards (a component of transactional leadership) and total EI ( $r = .445, p < .01$ ). Contingent reward is also linked to various EI components (see Table 5), potentially overlapping with transformational leadership. Contrary to our anticipation, we found a significant negative correlation between laissez-faire leadership and the total emotional intelligence score ( $r = -0.343, p < .01$ ).

We also conducted a least-square regression analysis to identify which EI component best predicts which leadership dimensions using leadership aspects as dependent variables and emotional intelligence components as predictors. The beta coefficient ( $\beta$ ) in a least-square regression model indicates the predicted change in the dependent variable ( $y$ ) for a one-unit change in the predictor variable ( $x$ ), holding all other variables constant. It makes no difference whether the value is positive or negative because it only tells if the relationship is positive or negative. For example, if the variable 'A' has a beta of 0.1, variable 'B' has a beta of 0.2, and variable 'C' has a beta of 0.4 or larger, variable 'C' is the best predictor, followed by variable 'B', and then variable 'A' [36].

As illustrated in Table 6, the regression analysis shows that relationship management in EI emerged as the best predictor of transformational leadership or TFL ( $\beta = .615, p < .01$ ) and at least four dimensions of TFL: idealized attributes ( $\beta = .546, p < .01$ ), idealized behaviors ( $\beta = .519, p < .01$ ), inspirational motivation ( $\beta = .625, p < .01$ ), and individualized considerations ( $\beta = .587, p < .01$ ). Relationship management was also a strong predictor of contingent reward ( $\beta = .506, p < .01$ ), and laissez-faire leadership ( $\beta = -0.409, p < .01$ ). On the other hand, social-awareness (concern for the feelings of others) was found to be the strongest predictor of individualized consideration ( $\beta = .557, p < .01$ ), inspirational motivation ( $\beta = .537, p < .01$ ), and contingent rewards ( $\beta = .506, p < .01$ ).

Furthermore, self-management significantly predicts inspirational motivation ( $\beta = .461, p < .01$ ) and intellectual stimulation ( $\beta = .443, p < .01$ ). When leaders understand their own and others' emotions, they are more supportive of their followers, and this increases their trust and confidence in the leaders. However, interestingly, the study found no significant correlation between most EI clusters

**Table 5**

Correlation for emotional intelligence and leadership.

	Self-awareness	Self-management	Social-awareness	Relationship management	Total EI
Transformational leadership	.432	.561	.512	.615	.585
Idealized attributes	.314	.485	.508	.565	.554
Idealized behaviors	.311	.423	.443	.519	.535
Inspirational motivation	.343	.508	.537	.595	.575
Intellectual stimulation	.084	.043	.078	.087	.086
Individualized considerations	.331	.212	.557	.587	.564
Transactional leadership	ns	ns	ns	ns	ns
Contingent rewards	.340	.406	.451	.420	.445
MBE (active)	ns	ns	ns	ns	ns
MBE (passive)	-.242	-.331	.078	-.040	-.339
Laissez-faire leadership	-.220	-.233	-.235	-.409	-.343

Notes: MBE = management by exception; ns = not significant; n = 210,  $p < .01$ .

**Table 6**  
Least-square regression analysis EI components for leadership style dimensions.

	Self-awareness	Self-management	Social-awareness	Relationship management
Transformational leadership	.132	.211	.212	.615*
Idealized attributes	.116	.221	.225	.546*
Idealized behaviours	.014	.208	.213	.519*
Inspirational motivation	.212	.461*	.537*	.625*
Intellectual stimulation	.084	.043	.078	.087
Individualized consideration	.101	.212	.557*	.587*
Transactional leadership	ns	ns	ns	ns
Contingent rewards	.010	.116	.506*	.449*
MBE ( <i>active</i> )	ns	ns	ns	ns
MBE ( <i>passive</i> )	-.042	-.031	.078	-.040
Laissez-faire leadership	-.020	-.033	-.235	-.409*

Notes: \* = a significant predictor; n = 210, p < .01.

and intellectual stimulation in transformational leadership, possibly due to intellectual stimulation being more cognitive and not relying on EI as much as other components. The findings are consistent with prior studies by Refs. [11,16,26].

## 5. Discussion

In recent years, emotional intelligence (EI) has gained popularity as a key tool for developing effective leaders. Emotionally intelligent leadership is gaining popularity due to a shift in leadership paradigm, where leaders are considered effective when they are self-aware, value relationships, and are sensitive to employees' emotions [5]. The present study found gender differences in emotional intelligence among academic leaders, with female leaders outperforming male leaders in overall EI scores and most components. Our findings align with previous studies [17–20]; indicating that women outperform men in most EI aspects and that gender differences exist in total EI. However, our findings contradict previous studies that found no gender differences in emotional intelligence [21–23]. This indicates that women might possess unique leadership skills crucial for effective higher education leadership, suggesting that authorities should capitalize on this advantage to bridge the gender gap.

One reason for the disparities in emotional intelligence between men and women could be due to differences in socialization. In the Ethiopian cultural context, socialization encourages females to express their emotions, be empathic, and cooperate, while males are expected to be assertive, competitive, and autonomous. In line with this idea, Naghavi and Redzuan [27] asserted that females learn to name their emotions quicker than males due to more interaction and information about feelings from parents. Mothers often use more emotional words and display more emotion when interacting with females, potentially creating a predisposition to more emotions for them. Thus, childhood experiences influence females' value for nurturing and interpersonal interconnectedness, leading to higher emotional intelligence skills, while males' suppression of emotions results in lower EI abilities.

Another possible explanation for gender disparities in EI is biological differences between males and females [20]. According to Joseph and Newman [18], female biochemistry is better adapted to an individual's own and other people's emotions as a critical component of survival. The size of some emotional processing regions in the brains of men and women differs [20,31]. Because of this, the brains of men and women process emotions in different ways, leading to disparities in emotional intelligence. Given that women have higher emotional intelligence than men do, as demonstrated by both social and biological factors, it is possible that women would perform better in leadership roles.

In spite of this evidence, women are still underrepresented in leadership positions. Particularly in the context of higher education, men are more likely than women to hold the highest-paying and most prominent leadership positions. We strongly argue that the main causes of women's persistent underrepresentation in leadership roles are old stereotypes and discriminatory practices that they still experience when assuming these positions. In Ethiopia, the academic landscape still heavily relies on an outdated male model that excludes women from leadership positions. Leadership skills are often viewed as masculine due to the long history of male leadership and are not favored by women when displayed. Alan et al.'s [38] research shows that people evaluate female leaders slightly negatively due to old stereotypes and cultural biases. Cultural biases against women have persisted for centuries, leading to unconscious bias in hiring and promotion decisions in Ethiopia and elsewhere.

The next big obstacle preventing women from assuming leadership roles is institutional one. Women are less likely to participate equally in leadership roles due to systemic bias, discrimination, a lack of workplace flexibility, a lack of affirmative action policies, and a lack of opportunities for networking and leadership training. Balancing work and family obligations is the third obstacle that keeps women from pursuing leadership roles. Workplaces are still constructed with a decades-old concept of male and female home roles. On one hand, women are expected to take care of children and home chores; on the other hand, they are expected to excel in teaching, research, and publication in scholarly journals, which are requirements for career development. This work overload makes women lag behind men in assuming leadership positions. Lastly, a lack of connections prevents women from rising to positions of leadership. Men continue to have networks that enable them to learn about opportunities to support their professional development. Given all these obstacles, we recommend that policymakers and higher education authorities should implement policies that promote workplace equity and capitalize on women's leadership advantages.

The current study also supports the findings of earlier research [2,5,6,11,12,32] by demonstrating a strong relationship between



emotional intelligence and transformational leadership (TFL) and at least four of its dimensions, including idealized attributes, idealized behaviors, inspirational motivation, and individualized consideration, as well as contingent reward. This demonstrates how important emotional intelligence is in predicting a transformational leadership style. Leaders who can control their emotions, both their own and those of others, foster an enabling environment that encourages and inspires their followers to perform better. With this style, the leader focuses on influencing the attitudes and beliefs of their followers and interacting with them deeply on an emotional level instead of giving instructions. Transformational leaders de-emphasize narrow self-interest and inspire their team members to go above and beyond expectations. This is also a reflection of the literature [2,16].

Our study found no correlation between emotional intelligence and transactional leadership, which runs counter to other researchers' findings [11,26]. This suggests that the importance of EI in leadership may have been overstated. One explanation for this finding could be that the self-report ESCI may not accurately capture the varying emotional intelligence levels among individuals. An additional rationale could be that leaders who identify as transactional leaders tend to be more goal-oriented. They disregard the emotional needs of their workforce in favor of aggressively monitoring performance and pressuring staff to go above and beyond to meet objectives. Because of this, these leaders are probably unable to recognize or comprehend their own and others' feelings. However, the researchers urge caution in interpreting the results and suggest more research.

The last question the study set out to answer was whether EI and Laissez-faire Leadership styles are empirically related. As it turned out, the two are systematically related, yet EI is negatively associated with a laissez-faire leadership style (see: Table 5). This means that leaders with higher emotional intelligence are less likely to adopt a hands-off approach to leadership. Put differently, leaders who avoid responsibility, show less willingness to offer assistance, and reject opposing viewpoints struggle even to identify their own feelings, let alone understand the emotions of their colleagues and effectively control them at work. This suggests that emotionally intelligent leaders will not play the role of a passive leader, nor will they shirk their responsibilities or fail to show up when called upon. The results of this study are consistent with those of earlier research [7,8,9,11].

In a nutshell, the study found a positive relationship between transformational and emotional intelligence, but no association between transactional leadership and emotional intelligence, and a significant negative correlation between laissez-faire and emotional intelligence. The study further revealed gender disparities in EI, with women achieving higher scores in both total EI and most of its components. Despite this, women continue to be underrepresented in leadership roles, especially in higher education, due to stereotypes and discrimination, necessitating policies promoting workplace equity and leveraging women's leadership advantages. Finally, the study suggests further research on leveraging emotional intelligence to enhance women's leadership competencies and bridge the gender gap in higher education leadership.

## 6. Implications of the study

This research has several significant implications that warrant careful consideration. First, it provides valuable insights into the relevance of emotional intelligence for leadership in academic settings. The findings are expected to influence leadership recruitment, selection, and development policies in higher education. We firmly believe that universities should adopt policies that take EI into account to identify potential leaders and develop effective leadership skills. EI testing should be required of candidates before they are appointed as academic leaders. Those who do not pass EI tests should not be considered for leadership roles, as they are essential for effective leadership.

Second, the gender difference in emotional intelligence is particularly noteworthy. Our study offers fresh insight into what women can bring to the exercise of leadership in higher education and opens a new debate on the issue of gender and leadership. The findings will help to bridge the gender gap in higher education leadership by influencing policymakers and administrators to introduce policies and legislation recognizing emotional intelligence as a female advantage. According to Sánchez-Núñez et al. [29], women are generally better at understanding and interpreting the emotions of others and tend to express themselves more emotionally. This might have its roots in the early years, when girls are encouraged to talk about and consider their emotions, suggesting that university authorities should capitalize on females' EI advantage in leadership to bridge the gender gap.

Third, the study could influence leadership training and development programs in higher education. In the past, leaders have benefited greatly from having technical or professional skills; however, more recent studies [2,6,8,9] have emphasized the value of having leaders with high emotional intelligence as well. It becomes apparent that organizations including HE institutions need emotionally intelligent leaders who can recognize the impact they have on their staff and leverage this to increase engagement, which in turn will result in improved organizational results. As such, EI training should be carefully considered. We urge university authorities to invest more in EI training and development programs. Finally, our study adds to the body of research on emotional intelligence by demonstrating the importance of EI in identifying potential leaders and cultivating strong leadership abilities.

## 7. Limitations of the study

Despite its significant contributions, the study also has the following limitations. First, the usage of a self-assessment tool may be viewed as a limitation. Self-report questionnaires were used to assess the emotional intelligence, leadership styles, and gender differences in EI of leaders; as a result, conclusions should be drawn cautiously. The study attempts to overcome the limitations of self-report assessments by involving participants from a diverse range of situations and people. We recommend that future research on the emotional intelligence and leadership style of leaders should gather 360° feedback data using ratings from both themselves and other people. Second, the researchers acknowledged the potential influence of bias in data analysis and utilized descriptive and inferential statistics to ensure the objectivity and validity of their conclusions. Finally, this study examined gender differences in EI only within

the Ethiopian cultural context. As such, findings should be generalized with caution. Future research should be conducted in diverse cultural contexts, with larger sample sizes, and using various methods.

## 8. Conclusion and Recommendations

In this paper, our results showed compelling evidence for the notion that emotional intelligence is critical for effective leadership in higher education. Emotions are a vital component of leadership and people management since leaders need to encourage and inspire their teams to accomplish common goals. In today's competitive landscape, higher education institutions are grappling with new challenges in reducing turnover, increasing organizational productivity, and enhancing job satisfaction. Leaders are constantly in the forefront and the spotlight, and their emotions can have a positive or negative impact on people around them. For example, an educational leader's responsibilities include managing frustrated and disgruntled students, staff, parents, and community members. Some of these duties may be emotionally taxing for the leaders due to their stressful nature and demand strong EI skills to manage them effectively. Higher education institutions must, therefore, embed strategies that foster emotional intelligence competencies in their leadership training and development programs.

The study also revealed a significant gender difference in emotional intelligence (EI) among male and female academic leaders, with female leaders scoring higher in overall EI and most dimensions. Nonetheless, women are still underrepresented in leadership roles and are still seen as anomalies when they occupy positions of power, especially in institutions of higher learning. Given the increase in stereotypes and discriminatory practices preventing women from advancing to higher education leadership positions, the findings presented in our paper will appeal to policymakers, university authorities, and other scholars who subscribe to the idea of gender equality in leadership. Our findings will also allow readers to increase a gender-neutral view of leadership and aid the exchange of various leadership perspectives across the globe. It might also offer fresh insight into what women can bring to the exercise of leadership in higher education and open a new debate on the issue of gender and leadership.

Finally, we strongly urge university administrators and policymakers to introduce policies and legislation that consider women's advantage in emotional intelligence in the recruitment, selection, and promotion of leaders in higher education. We also strongly advise women in academia to use their strengths in emotional intelligence to their advantage and champion their advancement in the leadership ladder. Women looking to rise to top-level positions within their organization need to prove their emotional competency because it allows them to cope with pressure, negotiate, build trust, motivate others, navigate workplace politics, and make sound decisions.

### Ethics statement

The research study received approval from the College of Education Ethics Review Committee at Hawassa University (Ref: HE07/338; November 28, 2022) and was carried out in compliance with the university's human research ethics guidelines. Participants were informed of the voluntary nature of their participation and written consent was obtained from each participant. All files for the manuscript and supporting materials have been uploaded. All author names and affiliations have been accurately provided. The co-authors have agreed on the sequence of authors and one author has been designated as the corresponding author. The manuscript's title is succinct and descriptive. The manuscript file comprises key sections such as Title, Abstract, Introduction, Materials and Methods, Results, Discussion, implications, References, and Tables. The manuscript has been thoroughly reviewed for spelling and grammar. Every reference listed in the list of references is cited in the text, and vice versa. All necessary disclosures have been made.

### Data availability statement

Data will be made available on request.

### Additional information

No additional information is available for this paper.

### CRediT authorship contribution statement

**Anteneh T. Asmamaw:** Writing - review & editing, Writing - original draft, Software, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Tesfaye Semela:** Writing - review & editing, Writing - original draft, Validation, Supervision, Software, Methodology, Investigation, Formal analysis, Data curation, Conceptualization.

### Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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