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## The effect of leadership styles on employee's performance in Ethiopian sports organizations with mediating and moderating roles

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The research explored the impacts of diverse leadership styles on employee performance in Ethiopian sports organizations. It specifically examined the mediating effects of job satisfaction and the moderating impact of education level. In this study a cross-sectional survey design was employed, with 463 participants from various sports organizations. Validated scales were used for the data collection of leadership styles, job satisfaction, and employee performance. The analysis of the data was conducted using descriptive statistics and structural equation modeling with software SPSS and Smart PLS4. The findings indicated that the perceived transformational leadership approach showed the strongest positive correlation with job satisfaction and employee performance, followed by the transactional leadership approach. In contrast, the laissez-faire leadership interaction with both employee job satisfaction and performance was demonstrated negatively. Job satisfaction was partially mediated in the relation between all three leadership styles and employee performance. Moreover, education level moderated the interaction between transformational leadership and job satisfaction. Drawing upon these findings, recommendations were provided for Ethiopian sports organizations to improve leadership styles and enhance employee performance, with a focus on understanding the mediating effect of job satisfaction and moderating effect of education level.

**Keywords** Leadership styles, Employee performance, Job satisfaction, Education level, Ethiopian sports organizations

Ethiopian sports organizations are currently facing significant leadership challenges that have hindered their effectiveness and competitiveness. In international competitions such as the Olympics, the once dominant position of Ethiopia sports has been increasingly threatened, with a declining trend in athletic performance. A key issue contributing to this decline is the appointment of non-professionals to critical leadership positions, a consequence of ineffective leadership practices. This has negatively impacted athletic performance. The lack of transparency in leadership election processes, as exemplified by the recent activities within the Ethiopian Olympic Committee, has generated uncertainty and dissatisfaction among employees. Furthermore, allegations of nepotism and favoritism in athlete selection have eroded trust in leadership, as athletes have raised concerns about biased criteria influencing their opportunities to compete fairly<sup>1,2</sup>. These issues have significantly affected employee performance (EP) and the overall development of sports in Ethiopia. Currently, Ethiopia's economy is underdeveloped, resulting in a scarcity of financial resources dedicated to the development of sports organizations. This, in turn, has made it difficult to cultivate outstanding sports management talents, and many leaders of sports organizations exhibit a lack of professional expertise and managerial competence. On the other hand, Ethiopia faces complex political dynamics nationally, with notable issues of opacity in the election and appointment processes within sports organizations. The election and appointment processes are often irregular and insufficiently monitored. Consequently, the leaders selected often lack specialized knowledge or backgrounds in sports management, which hinders the formation of effective management within sports organizations. Within this context, laissez-faire leadership (LF) has become the predominant leadership style within Ethiopian sports organizations.

In today's highly competitive environment, organizations are increasingly aware of the vital importance of enhancing employee performance to achieve their objectives. Effective leadership plays a crucial role in shaping

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subordinate job performance, as human resources are identified as a key asset that can enhance outcomes and provide a competitive advantage<sup>3–5</sup>. Research consistently demonstrates a strong correlation between different leadership styles and employee performance, highlighting how leadership influences productivity, motivation, and job satisfaction (JS)<sup>3,6</sup>. Leadership was defined as the process of guiding and influencing others to achieve specific organizational goals within a given timeframe<sup>7</sup>. This involved motivating and directing employees to promote job satisfaction and enhance performance<sup>8,9</sup>. Leadership effectiveness is measured by the enhancement of employee performance and the achievement of organizational objectives<sup>3</sup>.

Organizations that failed to ensure job satisfaction often struggled to remain competitive, as lower performance standards impeded success<sup>10</sup>. Leaders who empower employees through increased responsibility, involvement in decision-making, and delegation contribute to higher job satisfaction<sup>11,12</sup>. Conversely, poor administrative practices, such as unfair recruitment and poor working conditions, led to job dissatisfaction<sup>13</sup>. Leadership styles significantly influence employee performance, where effective styles can enhance productivity and foster innovation<sup>14</sup>. Selecting the appropriate leadership style is essential for motivating employees and achieving organizational objectives, as different situations may require different approaches<sup>3</sup>. Therefore, developing a flexible leadership model tailored to the specific needs of both leaders and employees is crucial for achieving optimal performance<sup>15,16</sup>.

Effective leadership is critical for achieving organizational goals within sports organizations<sup>17</sup>. Strong leadership is crucial for improving organizational performance by navigating challenges, inspiring change, and fostering environments that encourage learning and adaptability among teams<sup>19</sup>. Scott<sup>17</sup> highlighted that transformational leadership (TFL) can inspire and motivate team members, leading to better outcomes, while laissez-faire leadership style may be less effective in addressing the unique challenges faced by sports organizations. To achieve the desired outcomes, leaders within sports organizations need to effectively manage employee emotions, communicate well, and align their efforts with strategic objectives<sup>18</sup>, motivating employees, managing change, and fostering a shared vision<sup>9</sup>. Thus, the ability to foster motivation, collaboration, and engagement among team members exemplifies the critical role of effective leadership in enhancing overall performance. Hence, this study aims to investigate how different leadership styles (transformational, transactional, and laissez-faire) impact employee performance in Ethiopian sports organizations.

## Literature review

### *Leadership style*

Several studies have explored leadership styles' impact on organizational and individual success. Jamaludin<sup>15</sup> and Van Wart<sup>16</sup> emphasized effective leaders' ability to benefit both followers and organizations. Effective leadership not only enhanced the quality and efficiency of goods and services but also fostered employee cohesion and personal development, thereby augmenting job satisfaction and providing clear organizational direction and vision<sup>16</sup>. Various leadership theories have been scrutinized, positing various perspectives on traits, behaviors, adaptability to situational factors, and distinct leadership styles<sup>17</sup>. Transformational leadership, introduced by Bass<sup>18</sup> and applied in sport<sup>7</sup>, inspired followers to surpass expectations through charisma, personalized attention, and cognitive enhancement<sup>19</sup>. Transactional leadership (TCL), as conceptualized by Burns<sup>20</sup>, relied on a system of offering incentives or punishments based on individuals' work performance<sup>21</sup>. Conversely, laissez-faire leadership, consistently described as ineffective and dissatisfactory, was highlighted by Judge and Piccolo<sup>22</sup> and Bass<sup>2</sup> for its adverse impact on subordinate effort, performance, job satisfaction, and perceived leader effectiveness. Studies have indicated that transformational leadership was effective in cultivating team cohesion, organizational learning, and employee engagement, while transactional leadership focused on short-term goal achievement through rewards and punishment<sup>23–26</sup>. Moreover, other research has emphasized that the effectiveness of organizational outcomes hinges significantly on the presence and influence of robust leadership, which facilitates the development of aligned leadership strategies<sup>17</sup>. Transformational leadership is characterized by leaders who, through charismatic influence, inspirational motivation, intellectual stimulation, and individualized consideration, make employees aware of their responsibilities and the significance of their tasks. This leadership style addresses higher-level employee needs and empowers them to fully realize their potential to achieve peak performance, thereby fostering the mutual growth and transcendence of both the individual and the organization. Ethiopian sports organizations are still in their early stages of development and need to adopt an effective leadership approach that can help them navigate current challenges, improve employee performance, and thus promote sustainable and rapid organizational development. This will, in turn, strengthen the overall capacity of Ethiopian sports organizations and help them adapt to the ever-changing landscape of sports.

In recent years, there has been significant progress in the study of organizational leadership within the field of sports management. Kang et al.<sup>27</sup> introduced the concept of shared leadership and elaborated its particular value and importance in sports development and peacebuilding. Kim et al.<sup>28</sup> investigated the relationship between authentic leadership, as demonstrated by coaches, and the well-being of athletes within sports teams. Lee<sup>29</sup> examined the impact of servant leadership displayed by managers in college sports organizations on the achievement of organizational development goals. Additionally, Swanson et al.<sup>30</sup> identified and constructed the foundational structures of implicit leadership theories in basic-level sports management.

### *Employee performance*

Employee performance was a crucial factor impacting organizational profitability<sup>31</sup>. Anggarwati and Eliyana<sup>32</sup> delineated employee performance as the measure of accomplishment in fulfilling work tasks and aligning with organizational expectations, policies, and role requirements. Muzakki et al.<sup>33</sup> further described employee performance as the result of an employee's activities over a specific period compared to predetermined criteria, standards, and targets. Performance is a multidimensional construct that encompasses three fundamental

dimensions. The first, task performance, refers to the execution of assigned responsibilities and the achievement of job-specific objectives. The second, adaptive performance, involves the ability of employees to effectively navigate and respond to dynamic and evolving situations by demonstrating flexibility, resourcefulness, and problem-solving capabilities. Lastly, contextual performance encompasses behaviors such as teamwork and helping colleagues, contributing to a positive work environment and overall productivit<sup>34</sup>. Task performance specifically relates to the execution of designated job duties and responsibilities outlined in the job description, requiring cognitive prowess and primarily supported by task-specific knowledge, skills, and habits<sup>34</sup>. Leadership task performance includes setting strategic goals, upholding standard performances, motivating and guiding staff, and providing recognition, inspiration, and constructive feedback<sup>35,36</sup>. Adaptive performance denotes an individual's capacity to adapt and modify their behavior in response to changing work circumstances. It entails effectively handling volatile work situations and adjusting interpersonal behaviors to harmoniously collaborate with a diverse range of coworkers<sup>34</sup>. Contextual performance encompasses proactive actions that extend beyond the explicit specifications outlined in the job description yet contribute positively to the organization's environment and culture<sup>34</sup>. Such behaviors encompass volunteering for additional tasks, assisting colleagues, and fostering a positive attitude, even if not explicitly outlined in their job descriptions<sup>34</sup>.

#### *Job satisfaction*

Job satisfaction is characterized as an individual's emotional response or reaction to various aspects of their work and job environment<sup>37</sup>. It is impacted by a range of factors including achievements, benefits, compensation, communication, working environment, job importance, autonomy, interpersonal relationships, organizational reputation, feedback, job stability, flexibility at work, team dynamics, managerial support, and even genetic predispositions<sup>38,39</sup>. Job satisfaction serves as a critical metric for assessing employees' overall contributions in the workplace and their inclination to remain with or depart from the organization. By comprehensively gauging the determinants of job satisfaction, organizations can bolster employee morale and achieve favorable outcomes<sup>40</sup>. Job satisfaction is conceptualized through nine distinct dimensions, each representing a different aspect of the work environment. Pay refers to financial compensation, while promotion opportunities signify the potential for career advancement. Supervision reflects the quality of oversight and leadership provided by managers. Fringe benefits include supplementary perks and non-salary incentives. Contingent reward focuses on recognition and rewards tied to performance. Operating conditions encompass the physical and procedural environment that affects employee comfort and productivity. Co-worker relationships shape the social atmosphere in the workplace, and the nature of the work itself contributes to an employee's overall sense of fulfillment. Lastly, communication satisfaction pertains to the effectiveness and clarity of information exchange within the organization's structure<sup>37</sup>.

#### *Education level*

Education has a pivotal role in human development, as highlighted by various authors and institutions. UNESCO<sup>41</sup> acknowledged its significance in enhancing economic growth, poverty reduction, and social development. Durkheim<sup>42</sup> emphasized education's role in socialization and the transmission of cultural values, underlining its fundamental nature. Piaget<sup>43</sup> and Vygotsky<sup>44</sup> contributed from a psychological perspective, asserting that education promoted cognitive development, equipped individuals with essential skills, and facilitated social interaction and higher-order thinking. Furthermore, many researchers have examined the association between education attainment and various aspects of performance and employee commitment toward the organization. Rahman<sup>45</sup> found that profession and educational competence had a positive correlation with teacher performance, highlighting the importance of continuous competency development. Similarly, Ng and Feldman<sup>46</sup> emphasized the need to consider diverse job-related behaviors beyond core task performance, offering implications for recruitment, training, and organizational policies. Ariffin and Ha<sup>47</sup> suggested that workers with higher education levels exhibited stronger commitment to the organization, particularly in affective and continuance dimensions, indicating the significance of education in understanding commitment levels. Bakan<sup>48</sup> revealed that employees with higher education levels showed greater organizational commitment, particularly those with university degrees. Additionally, González<sup>49</sup> found that employees with lower education level displayed higher organizational commitment, possibly due to increased gratitude for job security.

#### *Relations between leadership style and employee performance*

Research has consistently demonstrated that competent leadership significantly enhances job performance, such as Knowledge-oriented leadership<sup>50</sup>. However, despite the constructive relationship between leadership effectiveness and performance, numerous survey findings have indicated that insufficient leadership, characterized by tyrannical or passive behaviors, persists as a barrier to employee performance<sup>51,52</sup>. Effective leadership, fostering commitment, and enhancing motivation are crucial for improving performance and productivity in sports organizations. Research on sports leadership underscored its critical importance and the inherent complexities within the sports industry. Barbuto<sup>17</sup> and Kent<sup>7</sup> investigated diverse leadership styles and their impact on employee motivation and organizational commitment. Similarly, the study underscored the crucial significance of understanding how the intricate facets of transformational leadership contribute to shaping and predicting the overall performance of employees within organizational settings<sup>53</sup>. Wondirad<sup>54</sup> highlighted the importance of implementing appropriate leadership styles in the organization for achieving success. Milhem<sup>33</sup> investigated how employees' perception of their leaders' transformational style impacts their engagement. Matzler<sup>55</sup> explored how trust among colleagues affects satisfaction and loyalty among employees in sports organizations. Pushpanathan<sup>56</sup> delved into leadership's broader impact on organizational performance, underlining the leaders' important role in driving performance outcomes. Huml et al.<sup>57</sup> and Weerakoon<sup>58</sup> examined how employees in sports organizations deal with management issues, pointing out the importance

of good leaders in handling these complexities. Euchner<sup>59</sup> underscored the strategic decision-making required in sports team relocations to manage relationships between teams and communities. Chelladurai and Kerwin<sup>60</sup> discussed the multifaceted nature of human resource management in sports, involving diverse stakeholder management and goal alignment. Arnold, Fletcher, and Molyneux<sup>61</sup> emphasized effective leadership in high-performance sport settings. Shilbury<sup>62</sup> and Forster<sup>63</sup> also explored sport governance's complexities, reinforcing the need for leaders to understand regulatory and political landscapes. Effective leadership in sports requires adaptability, combining different types of leadership approaches according to situations and audiences, ultimately motivating employees, encouraging commitment, and improving organizational success.

*Relations among job satisfaction, leadership style, and employee performance*

Exploring diverse leadership styles has unveiled their significant impact on employee satisfaction and organizational loyalty, underscoring the pivotal role of adaptability in leadership approaches to cultivate a positive work environment. Jalal<sup>64</sup> elucidated a notable positive correlation between intellectual stimulation and job satisfaction. Similarly, Avolio and Bass<sup>65</sup> demonstrated how principals' transformational leadership styles directly and indirectly influenced teachers' job satisfaction through their perceptions of their roles. Brown et al.,<sup>66</sup> discerned that job satisfaction plays a crucial role in mediating the relationship between leadership style and employee performance. Employees with higher levels of job satisfaction tend to exhibit better organizational performance. This accentuated how leadership styles shape employee satisfaction and commitment, as noted by Fornell<sup>66</sup> and Gan and Voon<sup>67</sup>. Additionally, Luu<sup>68</sup> and Fornell<sup>66</sup> extolled the efficacy of the transformational approach in augmenting employee satisfaction, motivation, and innovation. While both transformational and transactional leadership styles contribute to organizational success, Gan<sup>67</sup> contended that transformational leadership excels in enhancing employee satisfaction, motivation, and innovative thinking. Bennett<sup>69</sup>, Choi et al.<sup>70</sup>, and Laohavichien et al.<sup>71</sup> further advocated for integrating both leadership approaches to enhance organizational effectiveness and employee satisfaction. Whereas transformational leadership fosters innovation, motivation, and long-term vision, transactional leadership ensures operational efficiency through goal-setting, rewards, and accountability. However, solely relying on one style may not consistently fulfill all employees' needs, as individual preferences and motivations often vary. According to Jansen et al.<sup>24</sup>, transformational leadership encourages new and innovative exploration, while transactional leadership supports refining and exploiting existing innovations. In addition to exploring the relationship between leadership styles and employee performance, this study also examined whether job satisfaction acts as a mediator in this relationship, meaning that whether leadership styles influence employee performance through their impact on job satisfaction within Ethiopian sports organizations. Additionally, the study explored how education level moderates the relationship between leadership styles and job satisfaction, indicating that the effectiveness of different leadership styles may vary according to employees' educational backgrounds. The outcomes were expected to enrich academic discussions and furnish practical insights for leaders within Ethiopian sports organizations.

Based on the information above, the research questions outlined were as follows:

- (1) Which type of leadership style is predominantly adopted in Ethiopian sports organizations: transactional, transformational, or laissez-faire?
- (2) To what extent do leadership styles influence employee performance in Ethiopian sports organizations?
- (3) How does job satisfaction mediate the relationship between leadership styles and employee performance?
- (4) To what extent does education level moderate the relationship between leadership styles and job satisfaction among employees in Ethiopian sports organizations?

**Conceptual framework and hypothesis**

The findings from the aforementioned literature review present potential influence relationships among the variables. Effective leadership styles are very essential for organizational success, as they play a significant role in influencing employee motivation, job satisfaction, and dedication to the organizational work environment<sup>72</sup>. Organizations around the world make substantial investments in leadership training to enhance employee performance and organizational resilience<sup>73</sup>. Successful leadership plays a crucial role in motivating employees, enhancing their determination, and promoting the long-term sustainability of organizations<sup>56</sup>. In contrast, ineffective leadership can negatively impact employee job performance<sup>74</sup>. Based on the above information, the conceptual framework for the study was developed (Fig. 1).

**H1** Employees within Ethiopian sports organizations predominantly exhibit transformational leadership style, in comparison to transactional and laissez-faire styles.

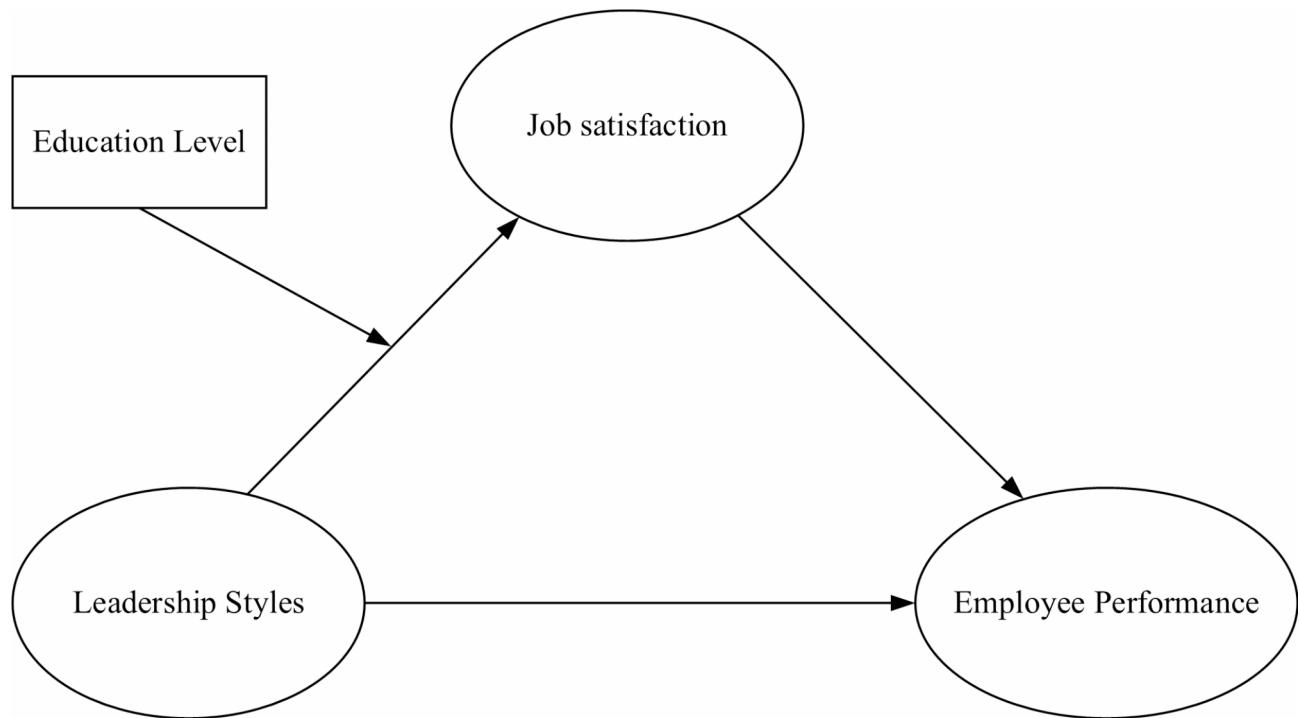
**H2** Leadership style has a positive and significant influence on employee performance.

**H3** Leadership style has a positive and significant impact on job satisfaction.

**H4** Job satisfaction has a significant impact on employee performance.

**H5** Job satisfaction mediates the relationship between leadership styles and employee performance.

**H6**.Education level moderates the connection among leadership styles and Job satisfaction.



**Fig. 1.** Conceptual framework and research hypotheses.

## Methods

### Participants

The participants in this study were employees recruited from Ethiopian sports organizations, excluding leaders at various hierarchy levels. A stratified random sampling technique was employed, dividing the total population of 2,902 Ethiopian sports organizations into eight distinct sports federations based on their respective population sizes. A comprehensive sampling frame was developed to include all organizations within each stratum, minimizing selection bias and ensuring that the sample represented the diversity of the target population. Slovin's formula<sup>75</sup> was utilized to calculate the required sample size based on a total population of 2,902 and a desired margin of error of 0.05, resulting in an initial sample size of 350.

$$n = \frac{N}{1 + N * e^2}$$

Note: n = required sample size; N = total population size; e = error tolerance.

Considering the complexity of the stratified sampling design and potential non-response, a sample size of around 500 was considered appropriate. The proportional allocation of the 500 participants across the eight strata ensured that each federation's representation was aligned with its population size, thereby enhancing the representativeness of the sample. Within each stratum, a simple random sample of the calculated size was drawn, ensuring that each organization had an equal chance of being selected. To further mitigate potential biases, careful attention was given to the stratification criteria, ensuring that each organization was accurately categorized based on clear attributes relevant to its respective federation. This study confirms that all methods were carried out in accordance with relevant guidelines and regulations and that informed consent was obtained from all participants. This study did not involve any clinical intervention, did not involve harm to participants, did not involve sensitive personal information, and had no commercial interests. Then, this study was exempt from Institutional Review Board (IRB) approval in accordance with the 'Ethical Review Methods for Life Sciences and Medical Research Involving Humans' issued by the National Health Commission of the People's Republic of China.

### Measures

**Leadership style** The leadership style of participants was assessed using the Multifactor Leadership Questionnaire (MLQ) developed by Bass and Avolio<sup>14</sup>. The questionnaire comprised a total of 36 items, with 20 items dedicated to measuring transformational leadership, 12 items assessing transactional leadership, and 4 items evaluating Laissez-Faire leadership.

**Job satisfaction** Regarding job satisfaction, the evaluation was carried out employing Spector's (1997)<sup>37</sup> scales. These scales comprised 36 items, designed to explore nine distinct dimensions of job satisfaction. This comprehensive tool enabled researchers to capture diverse facets of job satisfaction effectively, thus facilitating a nuanced analysis of its influence on employee performance.

**Employee performance** To assess employee performance, the Employee Performance Questionnaire (OCQ) developed by Pradhan and Jena<sup>34</sup> was employed. This questionnaire consisted of 23 items, encompassing three distinct subscales. This methodological approach facilitated a thorough examination of various dimensions of employee performance, allowing for nuanced insights into their overall effectiveness within the organizational context.

All the items, except for those related to demographics, were rated by the respondents using a five-point Likert scale, where 1 indicated “disagree very much” and 5 indicated “agree very much”.

#### Procedures

To measure leadership style, employee performance, and job satisfaction, the researcher employed validated scales grounded in established theoretical and empirical frameworks. To safeguard the rights of human subjects, the researcher secured approval from Shanghai University of Sport. Additionally, a letter outlining the study's intentions was obtained from their affiliated institution, Ambo University in Ethiopia. Subsequently, the researcher visited each organization and invited participants to join the study. A detailed explanations of the research purpose and the freedom to either participate or decline were given to the respondents. From July to August 2023, a survey questionnaire was distributed to 500 individuals. The survey followed other three questionnaires: Leadership style<sup>14</sup>, Job satisfaction<sup>37</sup>, and Employee performance<sup>34</sup>. As a consequence of these processes, a commendable response rate of 92.6% was achieved, with 463 participants completing the survey.

A varied representation of participants was observed across diverse federations, with the Ethiopian Ministry of Culture and Sport leading with 128 individuals (27.6%). Subsequently, the Ethiopian Sport Academy accounted for 97 participants (21%), followed by the Ethiopian Athletics Federation with 78 participants (16.8%). Other notable affiliations included the Ethiopian Football group with 48 participants (10.4%), Ethiopian Basketball with 34 participants (7.3%), Ethiopian Youth and Sport with 47 participants (10.2%), EUSA with 6 participants (1.3%), and Ethiopian World Taekwondo with 25 participants (5.4%).

In terms of gender distribution, male participants accounted for the majority 296 (63.9%), while females comprised the remaining percentage (167 participants, 36.1%). Age distribution revealed participants categorized into four age groups: 20–30 years 30 individuals (6.5%), 31–40 years 233 (50.3%), 41–50 years 157 (33.9%), and over 50 years 43 (9.3%). Regarding educational qualifications, the predominant group held a Bachelor's degree, accounting for 240 individuals (51.8%), while a significant portion held a Master's degree, representing 93 participants (20.1%). Furthermore, a subset of participants held a Diploma or lower qualification, totaling 110 individuals (23.8%), with a smaller percentage holding a PhD or higher degree, amounting to 20 individuals (4.3%).

Years of service were segmented into distinct categories, with the highest number of participants falling within the 6–10 years range, totaling 146 individuals (31.4%). Subsequently, there were 135 participants (29.2%) with 1–5 years of service, followed by 124 participants (26.8%) with 11–15 years of service. Additionally, 22 participants (4.8%) had served for 16–20 years, while 36 participants (7.8%) had exceeded 20 years. Lastly, participants were classified into job positions within the organization, with the majority being employees 386 (83.4%), and a smaller percentage holding leadership positions 77 (16.6%).

#### Data analysis

The study utilized a comprehensive approach to data analysis, starting with descriptive statistics in SPSS version 23 to elucidate the demographic characteristics of the respondents. An ANOVA was then conducted to assess differences in leadership styles to identify the dominant leadership style. Subsequently, Bonferroni multiple comparisons were employed to further delve into the specific differences between these leadership styles. For multivariate analysis, Smart PLS 4 was employed due to its effective handling of moderator and mediator variables. This approach enabled a comprehensive examination of the relationships between the variables under investigation. Moreover, Smart PLS 4 was also utilized for structural equation modeling, which facilitated the exploration of complex relationships within the study. The study conducted a Harman's single-factor test to assess the presence of common method bias among all variables. The results, without factor rotation, revealed 11 factors with eigenvalues greater than 1, which collectively explained 72.117% of the variance. Importantly, the first factor alone accounted for only 20.93% of the variance, not reaching the critical threshold of 40% as suggested by Podsakoff et al. (2003)<sup>76</sup>. Therefore, this study was not significantly affected by the common method bias.

## Results

### Measurement model

#### *The data reliability and internal consistency of the factors and variables*

The data reliability and internal consistency of the factors and variables were analyzed (Table 1). It was found that all constructs exhibited alpha values surpassing the recommended threshold of 0.7, indicating that the items within each dimension consistently assessed the same underlying concept<sup>77</sup>. The Composite Reliability results for all constructs met or exceeded the desired threshold of 0.7, further validating the reliability and consistency of the measured constructs<sup>66</sup>. Additionally, the Average Variance Extracted (AVE) values for all constructs exceeded the recommended limit of 0.5, signifying acceptable convergent validity<sup>66,78</sup>. This suggested that the constructs showed a substantial amount of variance represented by their indicators. Lastly, the factor loadings for all indicators surpassed the accepted limit of 0.5, indicating that the indicators significantly contribute to their respective constructs and can be considered reliable measurements<sup>78</sup>.

Factors and variables	Indicators	Factor loading	AVE	$\alpha$	CR
Transformational Leadership(TFL)	Individualized Consideration (IC)	0.71	0.592	0.826	0.878
	Idealized Influence - Attributed (IIA)	0.851			
	Idealized Influence - Behavioral (IIB)	0.697			
	Inspirational Motivation (IM)	0.773			
	Intellectual Stimulation (IS)	0.805			
Transactional Leadership(TCL)	Contingent Reward (CR)	0.711	0.645	0.721	0.844
	Management by Exception - Active (MEA)	0.862			
	3.Management by Exception - Passive (MEP)	0.829			
Laissez-faire Leadership(LF)	Laissez-fair 1(LF1)	0.882	0.74	0.883	0.919
	Laissez-fair 2 (LF2)	0.831			
	Laissez-fair 3 (LF3)	0.881			
	Laissez-fair 4 (LF4)	0.845			
Job Satisfaction(JS)	Contingent reward satisfaction (JS_CW)	0.614	0.514	0.88	0.904
	Communication satisfaction (JS_Com)	0.617			
	Co-worker satisfaction (JS_Cor)	0.813			
	Fringe benefits satisfaction (JS_Fb)	0.743			
	Nature of work satisfaction, (JS_NW)	0.781			
	Operating conditions satisfaction (JS_OC)	0.687			
	pay satisfactio (JS_Pay)	0.641			
	Promotion satisfaction (JS_Pro)	0.791			
	Supervision satisfaction (JS_Sup)	0.736			
Employee Performance(EP)	Adaptive performance (EP_AD)	0.835	0.698	0.786	0.874
	Contextual performance (EP_CP)	0.877			
	Task performance (EP_TP)	0.792			

**Table 1.** The data reliability and internal consistency of the factors and variables ( $N=463$ ).

(I) Leadership style	(J) Leadership style	Mean Difference (I-J)	Std. Error	$p$	95% Confidence Interval	
					Lower Bound	Upper Bound
LF_average	TFL_average	0.315**	0.0362	0.000	0.228	0.402
	TCL_average	0.384**	0.0362	0.000	0.297	0.471
TFI_average	TCL_average	0.069	0.0362	0.174	-0.018	0.155

**Table 2.** Bonferroni multiple comparisons. LF\_average: the mean value of the laissez-faire (LF) style; TFL\_average: the mean value of the transformational (TFL) style; TCL\_average: the mean value of the transactional (TCL) style; \*  $p < 0.05$ ; \*\*  $p < 0.01$ .

### Bonferroni multiple comparisons analysis

As shown in Table 2, the Bonferroni multiple comparisons test was conducted. The mean value for LF was significantly higher compared to the mean values of both the TFL ( $MD=0.315$ ,  $p$ -value  $< 0.001$ ) and TCL ( $MD=0.384$ ,  $p$ -value  $< 0.001$ ). However, the mean values of TFL and TCL were found to be similar ( $MD=0.069$ ,  $p$ -value = 0.174). The finding indicated that LF is the dominant approach in Ethiopian sports organizations, rejecting the initial hypothesis that described transformational leadership as being the predominant style.

### The correlation between leadership style, job satisfaction, and employee performance

TFL had strong positive correlations with JS and EP ( $r=0.899$ ,  $p < 0.01$ ;  $r=0.897$ ,  $p < 0.01$ , respectively). Similarly, TCL had strong positive correlations with JS and EP ( $r=0.864$ ,  $p < 0.01$ ;  $r=0.846$ ,  $p < 0.01$ , respectively). LF had weak positive correlations with JS and EP ( $r=0.082$ ,  $p < 0.01$ ;  $r=0.072$ ,  $p > 0.05$ ). Furthermore, JS exhibited a strong positive correlation with EP ( $r=0.923$ ,  $p < 0.01$ ) (Table 3).

### Model explanatory power analysis

The  $R^2$  statistic measures the proportion of the total change in the dependent variables that can be attributed to the independent variables. According to Cohen<sup>79</sup>, an  $R^2$  value of 0.26 or higher is considered substantial, signifying a strong explanatory power. All the endogenous constructs possess  $R^2$  values above 0.26, indicating substantial explanatory power. The  $F^2$  is a measure of the impact of predictor variables on the outcome variable, with higher values implying a more significant impact. And the  $F^2$  ranged from 0.000 (negligible) for the interaction between laissez-faire leadership and education level on JS, to 1.018 (high) for transformational leadership on JS. The  $Q^2$  values reflect the predictive relevance of the model, with higher values indicating stronger predictive power. The

	<b>M <math>\pm</math> SD</b>	<b>TFL</b>	<b>TCL</b>	<b>LF</b>	<b>JS</b>	<b>EP</b>
TFL	1.840 $\pm$ 0.552	(0.770)				
TCL	1.771 $\pm$ 0.566	--	(0.803)			
LF	2.155 $\pm$ 0.534	--	--	(0.860)		
JS	4.141 $\pm$ 0.629	0.899**	0.864**	0.082**	(0.717)	
EP	2.990 $\pm$ 0.619	0.897**	0.846**	0.072	0.923**	(0.836)

**Table 3.** Correlation between leadership style, job satisfaction and employee performance. Note: \*  $p < 0.05$ ; \*\*  $p < 0.01$ .

<b>Predictor(s)</b>	<b>Outcome(s)</b>	<b>R<sup>2</sup></b>	<b>F<sup>2</sup></b>	<b>Q<sup>2</sup></b>
JS	Employee performance	0.886	0.221	0.859
TFL			0.214	
TCL			0.060	
LF			0.025	
TFL	Job satisfaction	0.877	1.018	0.874
TCL			0.437	
LF			0.043	
TFL*Education level			0.008	
TCL* Education level			0.006	
LF* Education level			0.000	
Education level			0.011	

**Table 4.** Model Explanatory Power.

	<b>Direct effect</b>	<b>Indirect effect</b>	<b>Total effect</b>
TFL $\rightarrow$ EP(S)	0.375**	0.271**	0.646**
TCL $\rightarrow$ EP(S)	0.165**	0.174**	0.339**
LF $\rightarrow$ EP(S)	-0.056**	-0.034**	-0.09**
JS $\rightarrow$ EP(S)	0.448**	-	0.448**
TFL $\rightarrow$ JS(S)	0.605**	-	0.605**
TCL $\rightarrow$ JS(S)	0.389**	-	0.389**
LF $\rightarrow$ JS(S)	-0.076**	-	-0.076**

**Table 5.** Indirect Effect, Direct Effect and total effect ( $N=463$ ). S, significant; NS, not significant; \*  $p < 0.05$ ; \*\*  $p < 0.01$ .

study results showed that  $Q^2$  values for all endogenous constructs are above 0, indicating predictive relevance. Overall, the analysis demonstrated that the model has substantial explanatory power, with high effect sizes for variables and predictive relevance for the outcome variables (Table 4).

#### *Structural model*

The evaluation of the structural model aimed to analyze the interrelationships between latent variables within a structural equation model. Researchers conducted estimations of paths and coefficients to assess both the direct and indirect impacts of these variables. Smart PLS 4 offers various techniques, such as evaluating the significance of path coefficients, to determine model fit and the strength of relationships among variables. This methodology allows for a comprehensive examination of the structural dynamics underlying the observed phenomena, enabling researchers to draw robust conclusions about the relationships between different constructs within the model.

#### *Path coefficients and significant levels*

The analysis results showed that TFL has a positive and significant influence on EP ( $\beta=0.375$ ,  $p < 0.01$ ), and JS also exhibited a positive and significant influence ( $\beta=0.605$ ,  $p < 0.01$ ). Similarly, the TCL approach was found to have a positive influence on EP ( $\beta=0.165$ ,  $p < 0.01$ ) as well as JS ( $\beta=0.389$ ,  $p < 0.01$ ). In contrast, LF showed a significant negative impact on EP ( $\beta = -0.056$ ,  $p < 0.01$ ) and JS ( $\beta = -0.076$ ,  $p < 0.01$ ). Additionally, JS had a positive and significant effect on EP ( $\beta=0.448$ ,  $p < 0.01$ ) (Table 5).

### Mediation analysis

In accordance with the latest research findings and scholars' recommendations, PLS-SEM was adopted to examine the indirect, direct, and total effects among variables<sup>80</sup>. PLS-SEM utilizes the Bootstrapping principle for mediation effect analysis. The mediation analysis revealed significant results in the interaction among leadership styles and employee performance through the mediation of job satisfaction. The direct effect of TFL on EP showed a significant positive ( $\beta = 0.375, p < 0.01$ ), and the indirect effect through JS showed also significant ( $\beta = 0.271, p < 0.01$ ), indicating JS had a supplementary mediating effect on the relationship between TFL and EP. Similarly, the direct effect of TCL on EP showed a significant positive ( $\beta = 0.165, p < 0.01$ ), and the indirect effect mediated by JS also showed a significant value ( $\beta = 0.174, p < 0.01$ ), indicating JS had a supplementary mediating effect on the relationship between TCL and EP. However, LF negatively affected EP through JS. The direct effect of LF on EP was significant ( $\beta = -0.056, p < 0.01$ ), with the indirect effect through JS also significant ( $\beta = -0.034, p < 0.01$ ), indicating JS had a supplementary mediating effect on the relationship between LF and EP<sup>81</sup>.

On the one hand, higher levels of TFL and TCL can directly result in stronger JS and EP. Furthermore, JS served as a supplementary mediating effect between these two leadership styles and EP, indicating that the directions of both direct and indirect effects were consistent. A higher level of effective leadership style enhances the employees' job satisfaction, which in turn leads to better employee performance. On the other hand, a more prominent laissez-faire leadership style had a direct negative impact on job satisfaction and employee performance. As job satisfaction declines, it further exacerbates the decline in employee performance.

### Moderation analysis

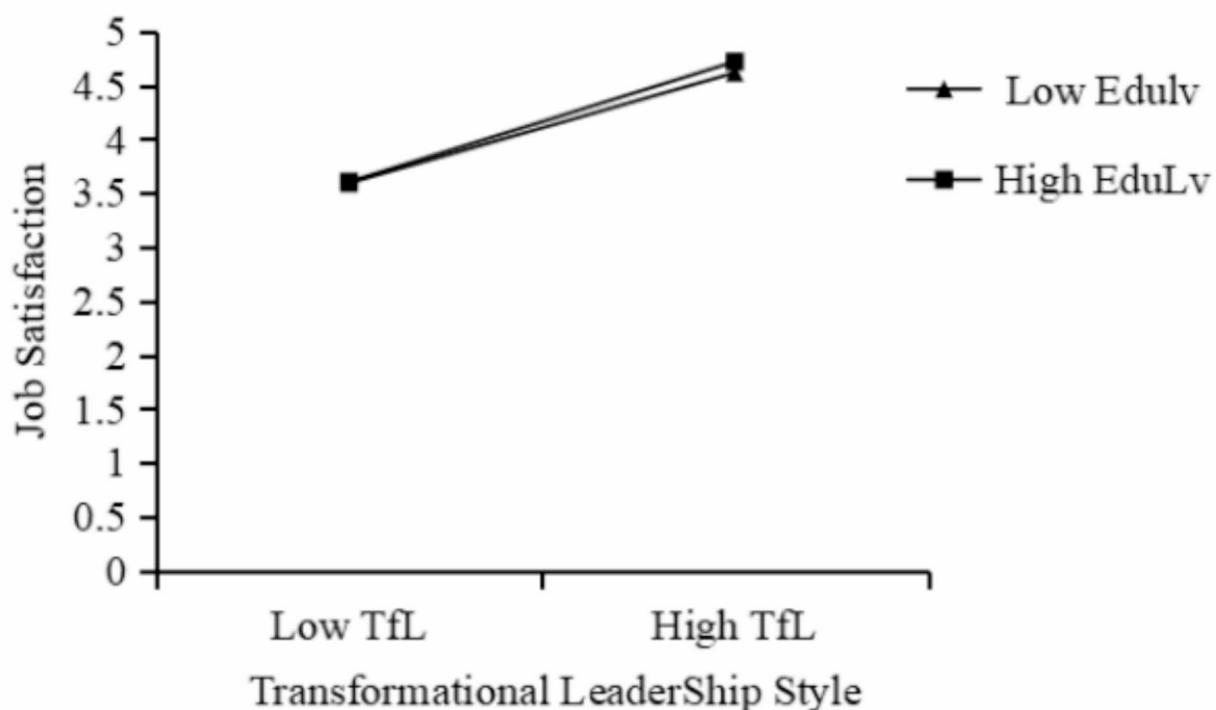
The moderation analysis was conducted by using PLS-SEM to examine the interaction effects between moderating variables and independent variables on the dependent variable. Specifically, the moderating effect of education level on the relationship between leadership style and job satisfaction primarily examined the path coefficient and its significance for the interaction term "education level \* leadership style" on job satisfaction. This analysis investigated how the path coefficient between leadership style and job satisfaction varies when the education level increases or decreases by one standard deviation. The findings demonstrated the moderating influence of education level on the relationship between various leadership styles and job satisfaction (Table 6). Firstly, the moderating role of education level in the interaction between TFL and JS was found to be statistically significant ( $\beta = 0.024, p = 0.027$ ). This indicated that education level plays a crucial role in determining the strength or direction of the positive or negative association between TFL and JS. Compared to individuals with lower education levels, those with higher education levels may experience a more pronounced positive relationship between TFL and JS (Fig. 2). Furthermore, the study examined the moderating impact of education level on the interaction between TCL and JS, revealing that the relationship was not statistically significant ( $\beta = -0.021, p = 0.064$ ). This suggests that the education level of employees in Ethiopian sports organizations does not significantly influence the interaction between TCL and JS (Fig. 3). Finally, the impact of education level on the interaction between LF and JS was analyzed, and the results showed to be statistically insignificant ( $\beta = -0.001, p = 0.859$ ). This implies that the impact of LF on JS does not depend on the employees' level of education (Fig. 4). Specifically, for employees with higher levels of education, the path coefficient between TFL and JS was significantly greater than that of employees with lower levels of education. This suggested that the higher the educational levels of employees and the stronger the TFL, the more likely to result in higher levels of JS.

## Discussion

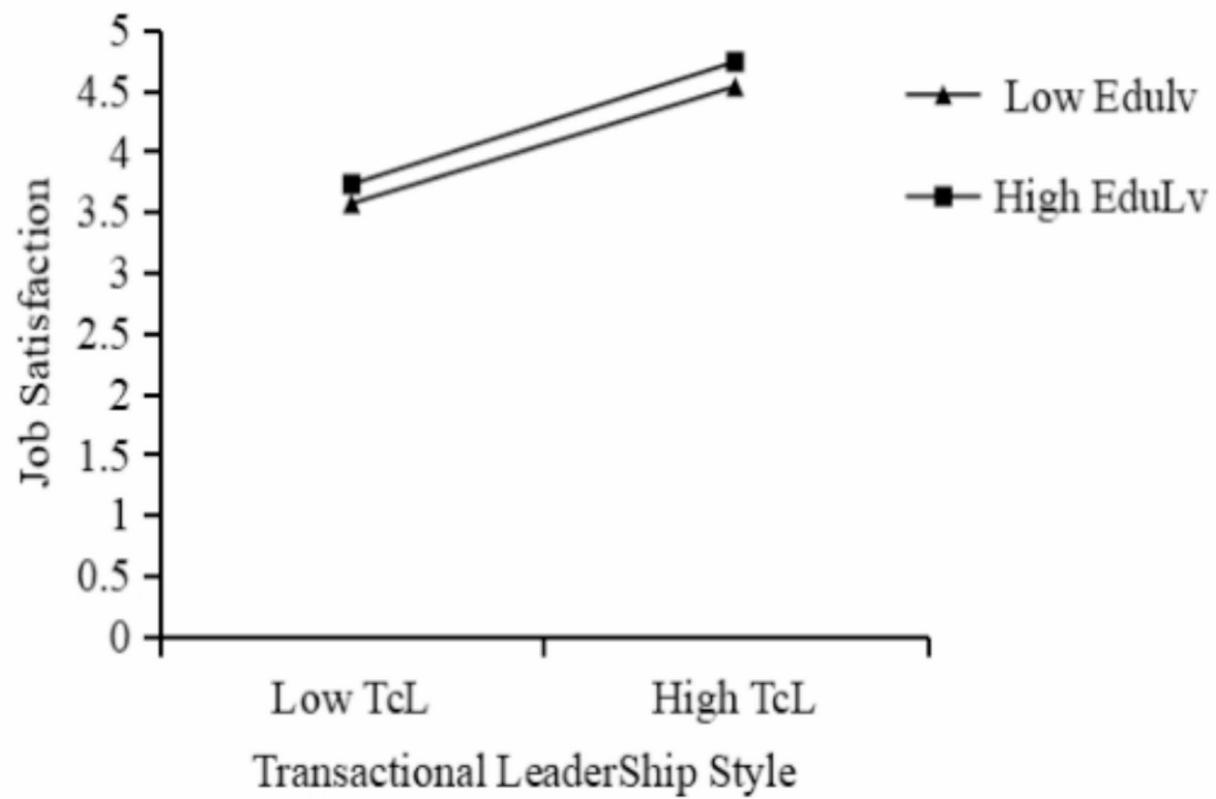
The research aimed to explore how different leadership styles interact with employee performance, with job satisfaction as a mediator, and education level playing a moderating role. This study found that job satisfaction plays a complementary mediating role in the relationship between three types of leadership styles and employee performance. Additionally, educational level positively moderated the relationship between transformational leadership and job satisfaction. The results of the comparison of leadership styles analysis showed that the common dominant perceived leadership style is a laissez-faire approach, which can have detrimental effects on organizational effectiveness, employee satisfaction, and the overall development of various sport organizations. This study aligns with the work of Kidane<sup>82</sup>. The findings of the correlation analysis showed a positive association between all leadership styles, job satisfaction, and employee performance. Transformational leadership stands out as the most influential in improving job satisfaction and employee performance. These findings align with previous research highlighting the transformative approach's ability to improve job satisfaction by providing a clear understanding of organizational objectives and employee performance<sup>22,83-87</sup>. The research findings indicated that while transactional leadership may not have as strong an effect on job satisfaction as transformational leadership, it still plays a significant role in improving job satisfaction and employee performance within Ethiopian sports organizations. This finding is supported by Girma<sup>84</sup>, Henry<sup>85</sup>, and Sürütü and Sağbaş<sup>87</sup>, which highlighted that transactional leaders' emphasis on clear expectations, rewards, and structure can positively

Path coefficients between factors	$\beta$	T	SE
TFL×Education level →JS(S)	0.024*	2.212	0.024
TCL×Education level →JS(NS)	-0.021	1.854	0.012
LF×Education level →JS(NS)	-0.001	0.178	0.007

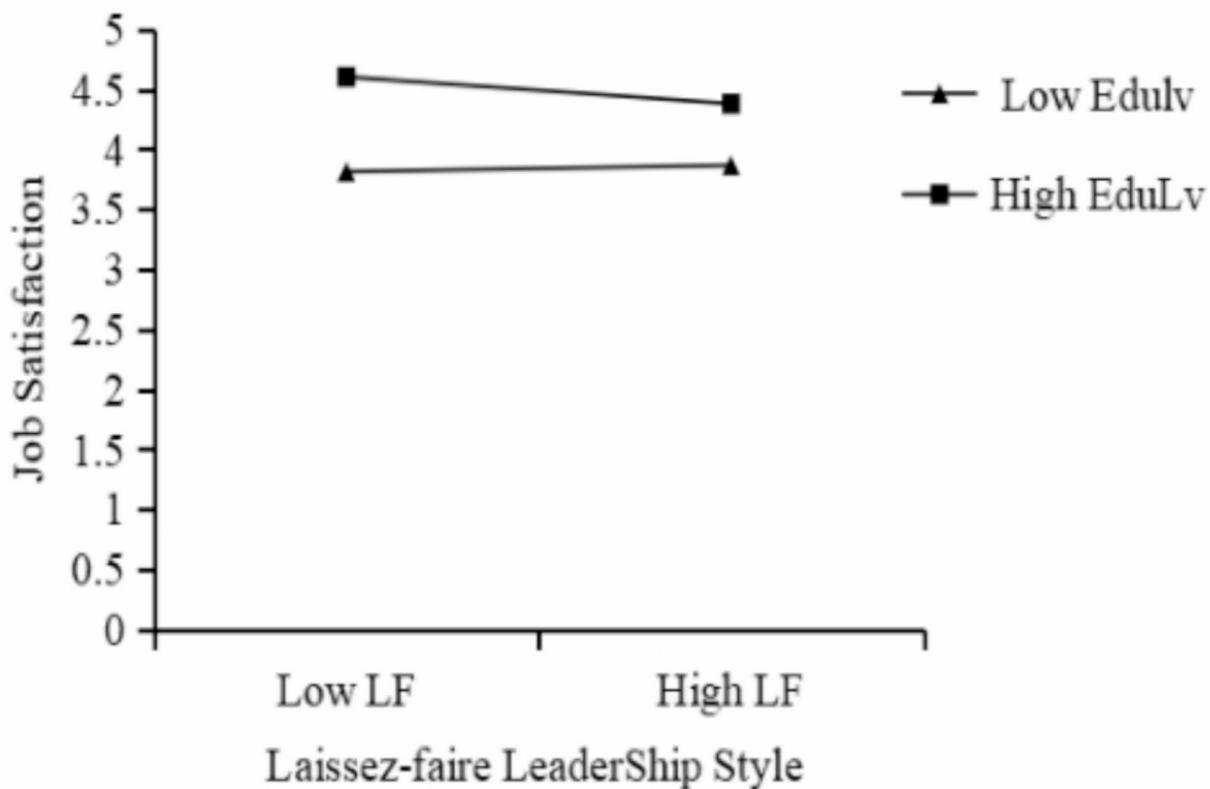
**Table 6.** Path coefficients of moderating variables and significant levels ( $N=463$ ). S, significant; NS, not significant; \*  $p < 0.05$ ; \*\*  $p < 0.01$ .



**Fig. 2.** Moderating effect of education level between leadership style and job satisfaction (TfL).



**Fig. 3.** Moderating effect of education level between leadership style and job satisfaction (TcL).



**Fig. 4.** Moderating effect of education level between leadership style and job satisfaction (LF).

influence both job satisfaction and overall performance. On the other hand, laissez-faire leadership exhibits a negative relationship with both job satisfaction and employee performance. This finding aligns with previous research, which suggested that laissez-faire leadership reduces employee satisfaction and performance<sup>85,87</sup>. Job satisfaction also shows a positive correlation with performance, supporting the significance of job satisfaction in increasing job performance<sup>83,85,87</sup>.

The mediation analysis revealed that transformational leadership had a significant positive impact on employee performance through the partial positive mediation of job satisfaction. This means that employees who perceive their leaders as transformational are more likely to be satisfied with their jobs, leading to improved performance. Similarly, transactional leadership positively affected employee performance when mediated by job satisfaction, with both total and direct effects remaining significant. In contrast, laissez-faire leadership negatively affects employee performance through job satisfaction, indicating that employees who have laissez-faire leaders are less satisfied with their jobs and, in turn, perform poorly. These results are supported by Deng et al.<sup>83</sup> and Girma<sup>84</sup>.

The study also found the significance of education level in moderating the relationship between leadership styles and job satisfaction. The transformative approach showed a stronger positive interaction with job satisfaction among individuals with higher education levels, while transactional and Laissez-faire leadership styles did not show a significant relationship with job satisfaction across all education levels.

Although the laissez-faire leadership style allows employees significant autonomy in their work, it may lead to a lack of clear guidance for organizational development. In such a laissez-faire environment, organizations may often lack explicit rules and regulations, relying solely on employees' self-discipline to maintain order. This can result in ambiguous job roles, passive attitudes, and other issues that negatively affect work efficiency. Furthermore, Laissez-faire leadership may lead to ineffective communication and collaboration among team members. A notable phenomenon of fragmentation often arises, especially during cross-departmental cooperation, leading to situations of mutual blame and procrastination, which hinders the timely completion of tasks. If laissez-faire leadership becomes the dominant style, it could have adverse effects on the long-term development of Ethiopian sports organizations, impeding the effective achievement of organizational goals and strategies.

Currently, Ethiopian sports organizations are still in the early stages of development, characterized by unstable organizational structures and poorly defined work requirements for functional departments. Combined with the diverse sociocultural backgrounds present, it is challenging to implement effective and standardized management practices within sports organizations. Departmental operations are largely dependent on the

personal leadership traits of individual leaders. Moreover, due to the lack of comprehensive legal and regulatory frameworks, a laissez-faire leadership atmosphere has become prevalent in Ethiopian sports organizations.

In this context, Ethiopian sports organizations may encounter significant internal resistance during periods of transformation. The long-established leadership group often holds deep emotional ties and vested interests in the existing management model and organizational structure, resulting in resistance to the introduction of new leadership concepts, management approaches, and decision-making mechanisms. This opposition can take the form of direct obstruction, passive resistance, or covert undermining, leading to insufficient internal momentum and support for transformation, which in turn hampers the progress of reform initiatives. Additionally, the cost of changing the electoral and appointment system is considerable. Changes to this system entail substantial financial, time, and social costs, including the expenses required for redesigning electoral processes, training relevant personnel, and other necessary expenditures. Moreover, such changes may face external pressures and policy constraints. Ultimately, the successful leadership transformation of sports organizations relies on a group of professionals with advanced management concepts, rich practical experience, and exceptional leadership abilities. However, in reality, there is often a significant shortage of talent in the field of sports management in Ethiopian.

The other two leadership styles are not mainstream among current leaders in Ethiopian sports organizations. Leaders within these organizations tend to adopt a passive approach and allow the organization to operate without clear purpose, which poses considerable challenges for the future development of Ethiopian sports organizations.

## Conclusion

The study investigated the complex relationships between different leadership styles, employee performance, and job satisfaction within Ethiopian sports organizations, incorporating education level as a moderating factor. The findings revealed that the laissez-faire leadership approach is perceived as the dominant style implemented in organizations, while the transformational leadership approach was found to have the most powerful positive effect on both employee performance and job satisfaction. Transactional leadership also contributed positively, although to a lesser degree. Conversely, the laissez-faire approach negatively influenced job satisfaction and employee performance due to a lack of guidance and support. The mediation analysis highlighted the transformational leadership style has the strongest beneficial influence on employee performance by enhancing job satisfaction. While transactional leadership also positively contributes to employee performance, its effect is less pronounced. In contrast, the laissez-faire leadership approach demonstrated a weaker negative impact on performance. Furthermore, the level of education was found to significantly affect the relationship between transformational leadership and job satisfaction, indicating a distinct influence compared to the effects of transactional and laissez-faire leadership styles on employees' levels of job satisfaction. The statistical measures employed in the study demonstrated substantial explanatory power, effect sizes, and predictive validity for the outcome variables.

## Implications

### *Theoretical implications*

This study advances the existing literature on leadership styles, job satisfaction, and employee performance by confirming the mediating role of job satisfaction as a key mechanism that enhances the relationship between different leadership styles and employee performance within Ethiopian sports organizations. Furthermore, it identifies the moderating effect of education level, illustrating how employees' educational backgrounds can influence the dynamics between leadership styles and job satisfaction. The findings also reinforce the theoretical framework that highlights transformational leadership as the most effective style for promoting positive organizational outcomes, particularly through its ability to inspire, motivate, and enhance both employee satisfaction and performance.

### *Practical implications*

To improve organizational efficiency and the overall quality of team members, Ethiopian sports organizations must actively develop and implement specialized leadership training programs. These programs should aim to strengthen the decision-making abilities, communication and coordination skills, as well as team management capabilities of leaders at all levels, thereby fundamentally improving the leadership standards across the organizations. Additionally, to ensure accountability and effective management, it is essential to establish rigorous accountability mechanisms, oversight systems, and scientific evaluation frameworks. These systems should comprehensively monitor and assess leaders' work performance, decision-making quality, and team atmosphere cultivation, providing a foundation for both incentives and improvements. Furthermore, sports organizations should intensify educational training for both leaders and employee by integrating advanced international sports management concepts, refining training content, and upgrading training personnel. This helps ensure that the educational level of personnel meets with the dual objectives of personal leadership growth and organizational development.

### *Policy implications*

Governments and national authorities should strengthen and refine policies and material support for employee training and leadership qualification training programs within sports organizations. This includes encouraging various social entities to establish special funds and training institutions to provide necessary funding, institutional, and legal backing. Such efforts are essential to propel top-down reforms in sports leadership, fostering a diversified support structure led by the government and participated in by society. Ensuring the

successful implementation of leadership training programs in sports organizations is crucial to achieving these policy objectives.

### Limitations and future research

First, this study is limited in its generalizability as it was conducted in the specific context of Ethiopia. To more fully assess the impact of different leadership styles, future research should collect samples across countries with different cultural contexts. Cross-national comparative studies would allow for a deeper understanding of the mechanism by which leadership styles affect employee performance and job satisfaction, offering more tailored management suggestions for organizations across different countries and regions. Additionally, this study did not differentiate between types of Ethiopian sports organizations, despite the fact that various types of sports organizations may exhibit distinct leadership styles and patterns. Future research could delve into a categorical analysis of leadership styles within Ethiopian sports organizations, taking into account the country's unique national context. Finally, while this study only examined the moderating effect of education level, in actual organizational settings, numerous other potential moderators may influence the relationship between leadership style, employee performance, and job satisfaction. Future research should take these factors into consideration, such as organizational size, types of organizational culture, and environmental dynamism.

### Data availability

The datasets used during the current study available from the corresponding author on reasonable request.

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## Declarations

### Competing interests

The authors declare no competing interests.

### Additional information

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