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The Conditional Indirect Effect of Leadership Styles on Employee Performance: The Moderating Role of Employees' Educational Level

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Abstract

Understanding the mechanism through which leadership enhances employee performance remains a critical issue in public sector management. This study investigates the direct and indirect effects of transformational, transactional, and laissez-faire leadership styles on employee performance by examining the mediating role of public service motivation. It also explores whether employees' educational attainment conditions these motivational pathways. Integrating insights from the Full Range Leadership Model, Self- determination Theory, and Human Capital Theory, the study tests a moderated mediation framework using cross-sectional survey data obtained from 326 employees and their supervisors in public institutions of Ethiopia's Oromia Regional State. The suggested relationships were analyzed through Partial Least Squares Structural Equation Modeling (PLS-SEM). The results demonstrate that, whereas laissez-faire leadership is associated with poorer performance and shows no significant relationship with the public service motivation, transformational and transactional leadership have a favorable effect on both employee performance and Public service motivation. The mediation analysis further suggests that public service motivation is an important mechanism by which transformational and transactional leadership enhance performance. In addition, educational level significantly conditions this process, as the indirect effect of transformational leadership on employee performance through public service motivation is stronger among employees holding bachelor's degrees than among those with postgraduate qualifications. These results suggest that leadership efficacy is contingent not only on leadership behaviors but also on employees' educational characteristics, underscoring the need for more differentiated leadership development practices in public organizations.

Keywords

Leadership Styles, Public Service Motivation, Employee Performance, Education Level, Moderated Mediation, Developing Nation

Article History

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Introduction

Improving employee performance has become a key concern and topic of discussion among managers and scholars in both public and private sector businesses currently (Asencio, 2016). Organizations understand the importance of their human resources as a competitive edge because the business sector faces fierce competition on a worldwide basis (Dahkoul, 2018). Managers

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must concentrate on achieving company goals by improving employees' performance in a productive and successful way. Leadership style is inextricably linked to the workers' productivity (Amegayibor, 2021).

Due to political instability, corruption, poor governance, and poor leadership, there is underperformance by public sector institutions tasked with providing goods and services to the general public (Abbas et al., 2017). Political instability, corruption, and governance challenges can undermine employees' performance by reducing trust in organizational systems weakening employees' commitment to public goals, and creating organizational constraints that hinder collaboration, information sharing, innovation, and goal attainment (Vlaicu & Keefer, 2022). As to the authors, in public organizations, lower levels of trust are associated with weaker mission motivation and greater performance constraints, thereby limiting employees' ability to contribute effectively to organizational objectives. Research on public service motivation (hereafter PSM) suggested that leadership practices represent one of the most important organizational mechanisms through which public organizations motivate and retain employees (Hameduddin & Engbers, 2022b). As studies indicate, the public sector in developing countries suffers from deteriorated morale of employees, inefficient bureaucracy, and outdated systems in delivering effective services (David Folarin, 2021). Evidence points to a performance disparity between individuals and organizations in Ethiopia, especially in the Oromia area (Duressa & Asfaw, 2014).

The previous studies have also revealed that organizational culture, leadership, and motivation are some of the factors that can be used to address poor performance in the public sector (Mishra & Hassen, 2023). Leadership is a multifaceted construct consisting of various behavioral patterns, as conceptualized in modern leadership studies. Based on the Full Range Leadership Model (hereafter FRLT), this perspective integrates transformational, transactional, and laissez-faire styles into a holistic model (Bass & Avolio, 1994).

Despite the emergence of alternative leadership theories, the FRLM remains a dominant framework for studying leadership effectiveness. Recent reviews suggest that transformational and transactional leadership remain some of the most widely explained and empirically supported leadership approaches in organizational settings (Udin et al., 2025). Leadership behaviors in the public sectors have been identified as important antecedents for PSM and organizational performance, which supports the continued relevance of FRLM in explaining employee outcomes

There is evidence that these styles are best studied as a group. Studies from public sector highlight that the laissez-faire style is linked with poor performance, while transactional and transformational styles are significant performance drivers (Thanh et al., 2022). These findings propose that understanding effective leadership requires more than just one leadership style.

PSM is proposed to be the mediating role as suggested by the Self-determination Theory (hereafter SDT) that states when psychological needs are fulfilled, individuals become intrinsically motivated and improve performance (Deci & Ryan, 2000).

According to studies, leadership influences performance directly as well as through intermediates like PSM. PSM improves worker performance and the provision of public services (Pratama & Nurhidayah, 2019). However, there is currently a lack of empirical data regarding the association between PSM, leadership, and performance in Ethiopia (Hunduma et al., 2019). Furthermore, little is known about whether these links differ across Ethiopian public sector personnel with varied educational backgrounds, despite mounting data on the connections between leadership, PSM, and employee performance. This issue has become increasingly relevant as the expansion of higher education in Ethiopia, including Ethiopian Public Service University has produced a more educationally driven civil service workforce. Consequently, employees with different levels of education may respond differently to leadership behaviors, resulting in variations in PSM and performance.

SDT explains why leadership enhances PSM satisfying employees' psychological needs for autonomy, competence, and relatedness (Ryan & Deci, 2020). However, employees do not respond uniformly to leadership behaviors. Human Capital Theory (hereafter HCT) suggests that educational attainment influences employees' capabilities and expectations, thereby shaping their responsiveness to motivational influences (Becker, 1993). Accordingly, SDT explains the motivational mechanisms, whereas HCT explains which employees are most likely to respond to it (Vandenabeele & Breaugh, 2025). Building on HCT, this study proposes that educational attainment shapes employees' competencies, expectations, and responsiveness to leadership behaviors, thereby influencing the extent to which leadership enhances PSM (Becker, 1993). Hence, we propose the moderating effect of educational level between leadership style and PSM.

The study intended to address four aims: to investigate the association between leadership styles and employee performance; to scrutinize the relationship between leadership styles and PSM; to explore the mediating effect of PSM among leadership styles and employee performance; and to evaluate whether educational level influences the association between leadership style and PSM.

This paper is organized in five sections: the literature review on theories of leadership styles and concepts of PSM was discussed in Section two, along with the fundamental tenets of HCT and SDT. Moreover, hypothesis development and the conceptual framework of the study are addressed in this section. Section three discusses the research context and setting, target population, sampling size and techniques. Section four focuses on presenting the results of the study, while the final section discusses the findings and implications of the study.

Literature Review and Hypotheses Development

In this section, we present a review of the literature on leadership styles and PSM as well as, the underlying assumptions of SDT and human capital theory. Besides, the section presents hypothesis development and the conceptual framework.

Theories of Leadership

Leadership has been a big concern of scholars in leadership and public management, and they have provided different definitions based on characteristics, behaviors, relationships, and organizational settings (Northouse,2016). Leadership was viewed by authors such as Jabbar and Hussein (2017) as a process having an effect on the organizational culture and the overall performance through motivating, inspiring and guiding individuals or groups towards common objectives. Thus, effective leadership is crucial for enhancing commitment, ensuring productivity, and aligning workers' efforts with the business objectives (Gunnoo et al., 2024).

Since the emergence of Great Man and trait theories, leadership theories have evolved over time with more modern theories like transformational and servant leadership (Alimo-Metcalfe, 2013). While situational and contingency theories stressed that the efficiency of organizations is determined by the alignment of leadership style with context, behavioral theories later concentrated on the activities of leaders (Northouse, 2019). Recent views emphasize ethics, trust-building, and responsiveness to complex and changing environments in influencing employee and organizational performance (Benmira & Agboola, 2021). This change in viewpoint from a fixed approach to a more flexible one, which considers the dynamics of the organization, followers, and leaders, demonstrates the advancement in leadership (Bass & Riggio, 2006). The FRLM offers a comprehensive framework that encompasses transformational, transactional, and laissez-faire leadership styles (Bass & Riggio, 2006).

In the FRLM, leadership is viewed as a continuum rather than viewing the variables to be understood separately. According to this model, leaders usually display different combinations of transformational, transactional, and laissez-faire behavior when engaged with followers (Bass & Riggio, 2006). Consequently, these components are conceptualized as part of a more comprehensive leadership construct that represents the general pattern of managers' leadership behaviors (Antonakis, 2012). Thus, leadership styles can be theorized as a construct where three leadership behaviors represent the overall leadership strategy used in an organization.

Transformational leadership emphasis idealized influence, inspirational motivation, intellectual stimulation, and individuated consideration, which enhance innovation and a profound sense of commitment among the followers. Transactional leadership is grounded on structured exchanges, rewards and performance monitoring. Laissez-faire is non-leadership and absence of guidance (Antonakis, 2012). Although the model implies that good leaders apply these leadership styles in an adaptable way, transformational leadership is the most strongly linked to improved employee and organizational performance (Allieu & Moriba, 2023).

Through some psychological processes, the leadership behaviors outlined in the FRLM can affect employee motivation. In public sector organizations, leadership practices may shape employees' willingness to contribute to societal goals and public interest. One important motivational construct that explains this process is PSM, which refers to an individual's predisposition to respond to drives based in public institutions and public service values (Perry & Wise, 1990). Scholars such as Perry & Hondeghem (2008) argue that leadership behaviors play a vital role in nurturing or constraining this form of motivation among public employees. While

transactional leadership may affect motivation through defined performance standards and incentive systems, transformational leadership practices may increase employees' commitment to public values by expressing a compelling mission and highlighting group goals. Conversely, passive leadership behaviors such as laissez-faire leadership may reduce employees' motivational engagement because they offer little guidance or support. Consequently, the FRLM provides a useful theoretical foundation for examining how leadership styles influence employees' performance through motivational mechanisms in public sector organizations (Perry & Hondeghem, 2008; Wright & Grant, 2010).

The Concept of PSM

PSM has attracted considerable attention in organizational and public administration research because employee motivation is widely recognized as a critical determinant of both individual and organizational effectiveness (Riak & Bill, 2022a). Within the public sector, PSM refers to an individual's inclination to contribute to society and advance collective interests through public institutions. Perry and Wise (1990, P.368) defined PSM as "an individual's predispositions to respond to drives grounded primarily or uniquely in public institutions or organizations." It consists of values such as serving the public interest, advancing ethical governance, and contributing to societal interest (Houston, 2000; Perry &Vandenabeele, 2008). PSM is a multidimensional concept with four dimensions (Perry, 1997; Gamassou, 2014).

As to the scholars, Commitment to Public Values is Loyalty to public service principles and ethical standards. Attraction to public service, conversely, focuses on the desire to use public service to change the world. Moreover, compassion deals with empathy and concern for others. The fourth dimension, self-sacrifice, is the willingness to prioritize the interests of the group over one's own. These factors improve staff engagement, commitment, and job satisfaction, making PSM a crucial factor in determining performance in public organizations (Harari et al., 2017; Cooke et al., 2019).

Theoretical Foundation

To provide a clear yet comprehensive explanation of the proposed moderated mediation model, this study employs SDT and Human Capital Theory as a supportive theory of the study.

Self-Determination Theory

SDT argues that intrinsic motivation develops when individuals' psychological needs for autonomy, competence, and relatedness are satisfied (Deci & Ryan, 1985; 2000). In this study, SDT provides the theoretical basis for explaining the mediating role of PSM in the association between leadership and employee performance. Prior research shows that leadership behaviors that support these psychological needs enhance employees' intrinsic motivation and performance (Gagné & Deci, 2005).

Human Capital Theory

HCT posits that an increase in education and skill increases productivity by expanding employees' cognitive ability, analytical skill, and value internalization (Becker, 1975). Previous empirical study suggests that employees with degrees may be more affected by the moderating influence of educational level than postgraduate professionals (Ng & Feldman, 2010). The combination of SDT and HCT provides a coherent and unified explanation of the moderated mediation model in the current study.

Hypotheses Development

Leadership and Employee Performance

This study conceptualizes leadership based on the FRLM developed by Bass (1994). Empirical studies grounded in this theory suggest that employee performance is significantly influenced by leaders' behaviors. Among the three leadership styles, transformational behavior has consistently been connected with higher workforce performance, as they inspire employees to exceed formal job requirements and pursue organizational goals (Bass & Riggio, 2006; Judge & Piccolo, 2004; Wang et al., 2011). Although laissez-faire leadership may benefit highly skilled and self-directed employees in certain contexts (Judge & Piccolo, 2004; Skogstad et al., 2007), the FRLM generally views it as a passive leadership style related to lower levels of employee satisfaction, commitment, and performance. But, evidence from public sector hospitals in the Oromia Regional State shows that professional employees can perform well with limited leadership interventions, due to the increased autonomy that allows them to apply professional judgment and responsibility (Hundie & Habtewold, 2024). The current study further examines the relationship between leadership styles and employee performance in light of these mixed findings. So, the following hypothesis is suggested:

H1: *Leadership style positively influences employee performance in public sector*

H1a. *Transformational leadership style positively influences employee performance in public sector*

H1b. *Transactional leadership style positively influences employee performance in public sector*

H1c. *Laissez-faire leadership style significantly influences employee performance in public sector*

Leadership and PSM

For the sake of group and organizational objectives, transformational leaders inspire followers to transcend their personal interest (Bass & Avolio, 1994). Empirical studies indicate that transformational leaders cultivate employees' moral commitment and intrinsic motivation (Avolio et al., 1999). Consistent with PSM theory, these leadership behaviors reinforce employees' commitment to serving the public interest (Perry and Wise, 1990). Studies further

suggests that transformational leadership positively influence PSM by providing intellectual stimulation, individual consideration, and inspirational motivation (Winda et al., 2022).

Contingent reward, a central component of transactional leadership, involves' clarifying performance expectations and providing rewards when those expectations are met (Bass and Avolio, 1994). From a SDT perspective, contingent reward may enhance employees' sense of competence by providing recognition and feedback regarding successful task accomplishment (Ryan & Deci, 2020). When leaders in public organizations communicate expectations clearly and reward people fairly, employees are more likely to feel committed and motivated to help the organization reach its goals. But there is a catch; if leaders start depending too much on external rewards, employees might stop caring about the work itself and focus only on what they will get out of it. So, the link between offering rewards and employees' public service motivation is not simple.

Laissez-faire leadership is even trickier to pin down. Looking at it through the lens of SDT, giving employees a lot of autonomy can actually boost their motivation if they know what they are doing and have enough internal drive (Deci & Ryan, 2000). The study shows that highly skilled, self-driven people sometimes perform better when managers reduce control (Skogstad et al., 2007). However, the dominant leadership literature generally characterizes laissez-faire leadership as a passive form of leadership that provides limited guidance and support, potentially weakening employee motivation and organizational outcomes (Judge & Piccolo, 2004). Given these mixed findings, the present study further tests the relationship between leadership styles and PSM. Accordingly, the following hypothesis is proposed:

H2*: Leadership style positively influences the PSM of civil service employees.*
H2a. *Transformational Leadership positively influences the PSM of civil service employees.*
H2b. *Transactional Leadership positively influences the PSM of civil service employees.*
H2c. *Laissez-faire Leadership significantly influences the PSM of civil service employees.*

The Mediating Role of PSM

According to SDT, when people's essential psychological domains for relatedness, competence, and autonomy are satisfied, they become truly driven and perform better (Ryan & Deci, 2020). Employee intrinsic motivation is one way that leadership influences performance both directly and indirectly (Bottomley et al., 2016). Employees become more engaged and committed to going above and beyond the call of duty when they absorb public principles (Kim & Kim, 2022). According to earlier research, PSM mediates the effect of transformative leadership on performance outcomes in the public sector through a psychological mechanism (Hundie & Habtewold, 2024). Thus, the following hypothesis is put forth:

H3: *PSM mediates the relationship between Leadership styles and employee performance.*
H3a*: PSM mediates the relationship between transformational leadership and employee performance.*

H3b*: PSM mediates the relationship between transactional Leadership and employee performance.*

H3c*: PSM mediates the relationship between Laissez-faire Leadership and employee performance.*

Moderating Role of Educational Level

One significant individual aspect that may affect how employees view and react to leaders' actions is educational level. According to HCT, education improves people's knowledge, cognitive capacities, and professional capabilities, which in turn shape their expectations at work and responses to managerial practices (G. S. Becker, 1993). Simultaneously, SDT suggests that leadership affects motivation by meeting workers' requirements for relatedness, competency, and autonomy (Ryan & Deci, 2020). Highly educated workers frequently have more professional experience and self-assurance, which may lessen their need for leadership behaviors as a source of competence and inspiration.

Conversely, employees with lower educational attainment may derive stronger motivational benefits from leadership support, guidance, and recognitions. Consequently, the influence of leadership on PSM may vary according to employees' educational backgrounds. More educated employees are more likely to understand organizational goals, appreciate inspirational leadership, and display stronger commitment to public service values (Wright et al., 2012). Therefore, the influence of leadership behavior on PSM may vary across educational groups. As a result, the following theories are formulated:

H4*: Educational level moderates the relationship between leadership style and PSM*

H4a*: Educational level moderates the relationship between transformational leadership style and PSM*

H4b*: Educational level moderates the relationship between transactional leadership style and PSM*

H4c*: Educational level moderates the relationship between laissez-faire leadership style and PSM*

H5*: Education level moderates the indirect effect of transformational leadership on performance through PSM.*

H5a*: Education level moderates the indirect effect of transactional leadership on performance through PSM.*

H5b*: Education level moderates the indirect effect of laissez-faire leadership on performance through PSM.*

H5c*: Education level moderates the indirect effect of leadership on performance through PSM.*

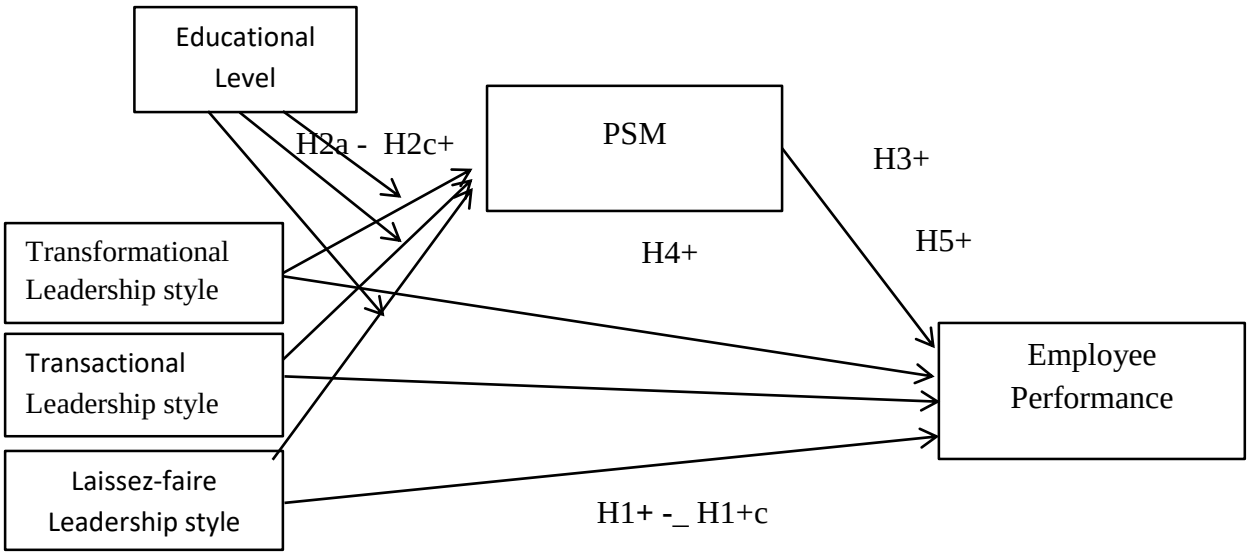


Figure 1: Conceptual Framework of the Study
Source: Developed by the researchers based on FRLM, SDT, and HCT

Research Methodology

Research Context and Setting

This study was conducted within public-sector institution in the Oromia Regional State, Ethiopia. Oromia is an essential testing ground for Ethiopia's national public-sector reforms due to its administrative and demographic size. The region has had a number of institutional transformation initiatives over the last ten years with the goal of improving staff performance, accountability, and service delivery (Amanta, 2020). As a representative case within the larger Ethiopian civil service, the study concentrated on a few regional bureaus and agencies, such as the Oromia Bureau of Agriculture, Oromia Road and Logistics, Oromia Urban Development and Housing, Oromia Education Bureaus, Transport Agency, Women and Children Affairs Bureau, Finance Bureau, Public Service and Human Resource Development Bureau, Police Commission, and Ethical and Anti-Corruption Commission.

Target Population

The target population for the study comprised public-sector employees and their immediate supervisors working in the Oromia Regional State, Ethiopia. The Oromia Public Service and Human Resource Development Bureau reported that approximately 50,747 employees are employed by regional government institutions in 2024. From the total, 5,329 permanent employees working in ten randomly selected public sectors were the target population for this study.

These organizations were drawn from the five administrative clusters of the Oromia Regional Government—namely, the Rural Cluster, Social Cluster, Urban Cluster, Government Property Administration Cluster, and Security Cluster. A stratified sampling technique was employed to

confirm adequate representation of different public-sector institutions. First, public institutions were categorized into relevant strata based on their organizational cluster. Subsequently, institutions were randomly selected from each stratum to ensure that different administrative functions were represented in the study. This approach enhanced the representativeness of the sample and reduced the risk of over-representing a particular type of public institution.

Employees (experts, team leaders, and process owners) and their immediate supervisors were included as units of analysis to enable a multi-source assessment of the constructs. In this study, employee performance was rated by immediate supervisors, while employees rated supervisors' leadership behavior and their own PSM. This approach lowers common method variance (Podsakoff et al., 2003) and diminishes self-report bias and social desirability effects (Heidemeier & Moser, 2009).

Sampling Size and Sampling Technique

A sample size of 373 employees was chosen for the study from the target population of 5329 employees. Questionnaires were first distributed to 373 employees from various public sector institutions, as well as their direct supervisors. Of these, 328 matched employee-supervisor pairings were deemed appropriate for the analysis.

Subsequently, data quality was examined using the Mahalanobis distance test, which identified two multivariate outliers. As a result, 326 of the matched employee-supervisor responses were retained for the main statistical analysis.

Data Collection Instruments

The main data collection tool used in the study was a structured, self-administered questionnaire designed to elicit employees' and their immediate supervisors' perceptions of leadership style, PSM, and employee performance. Using two sources minimizes the risk of common method bias. Additionally, a full collinearity test was conducted following Kock (2015), which recommends a VIF value below 3.3.

The measurement questions were adapted to fit the contextual circumstances of the Oromia public sector after being extracted from existing, verified scales in the literature. A pretest was conducted to assess the items' contextual appropriateness, intelligibility, and relevance. Leadership style was measured using measurements adapted from the multifactor leadership questionnaire (MLQ) developed by Bass & Avolio (1994). PSM was assessed using questions adapted from Perry's (1996) scale. A scale developed by Koopmans et al. (2014) was used by respondents' direct supervisors to evaluate employee performance.

As a category demographic variable, education level was evaluated using respondents' highest level of education. For the moderation analysis, the variable was coded 0= post-graduate degree (Master's and above), 1 = undergraduate degree. This coding procedure is consistent with the treatment of categorical variables in PLS-SEM analyses (Hair et al., 2021).

The questionnaire was translated from English in to Afan Oromoo, the primary working language of the study area to ensure linguistic accuracy and preserve the validity of the measurement instruments.

Method of Data Analysis

Partial Least Square Structural Equation Model (PLS-SEM) in smartPLS 4.1 was used to evaluate the data (Hair et al., 2019). Assessment of the measurement model and evaluation of the structural model made up the two parts of the analytical process. Higher-order constructs for PSM, employee performance, and transformational and transactional leadership styles were used in the study were estimated using the disjoint two-stage technique (Becker et al., 2012).

Ethical Consideration

Ethical approval was obtained from the university prior to data collection. Participation was voluntary, informed consent was obtained from all participants, and responses were kept confidential and analyzed anonymously.

Results and Discussion

This section presents the study's findings based on valid responses from 326 employee-supervisor pairings from ten public-sector firms in Oromia. The findings encompass descriptive statistics of the respondents, assessments of reliability and validity of the constructs, and hypothesis testing for the direct, indirect, and conditional indirect effects among leadership styles, PSM, and employee performance.

Respondents' Demographic Characteristics

In total, 326 respondents took part in the study. As shown in Table 1, the participants included 59.5% males and 40.5% females, indicating a slight male dominance in the institutions surveyed.

Table1: Demographic Characteristics of Respondents

Demography		Frequency	Percent
Sex	Male	194	59.5
	Female	132	40.5
	Total	326	100.0
Age	below 25years old	7	2.1
	From 26 to 35 years old	72	22.1
	36 to 45 years old	158	48.5
	From 51 to 60years old	77	23.6
	56 years and above	12	3.7
	Total	326	100.0
Educational Level	Bachelor degree	186	57.1
	Master's degree	133	40.8
	PhD degree	7	2.1
	Total	326	100.0
Respondents' current Position	Process owner	28	8.6
	Team leader	85	26.1
	Expert	209	64.1
	Technician	4	1.2
	Total	326	100.0

Source: Survey Data (2025)

The largest percentage (48.5) of the population was between the ages of 36 and 45, followed by those between the ages of 51 and 60 (23.6%). These findings demonstrate that a sizable percentage of employees in the organizations are middle-aged, which may point to a workforce with a high level of maturity and experience.

In terms of educational level, the majority of respondents (57.1%) had a bachelor's degree, followed by a master's degree (40.8%) and a doctorate (2.1%). This helps to analyze the moderating role of education level between leadership style and employees' level of motivation.

In regard to positions, 8.6% are process owners, and 26.1% of the respondents are team leaders. This indicates the supervisors, representing leadership positions, are included in the sample to reflect their views on the relationship among leadership style and employee performance.

Measurement Model Assessment

The quality of the measuring model was thoroughly assessed before the structural relationships suggested in the study were evaluated. The evaluation was conducted at the first and second-levels due to the multidimensional nature of the constructs. Transformational and transactional leadership, employee performance, and PSM were modeled as reflective higher-order constructs. Conversely, a first-order reflective construct was used to model laissez-faire leadership. The assessment of the measurement model concentrated on indicator reliability, internal consistency reliability, convergent validity, and discriminant validity using the method created by Hair et al. (2019) and Sarstedt et al.(2022).

Measurement Model Assessment for First-order Constructs

Table 2 shows that every items loading, ranging from 0.836 to 0.932, exceeded the recommended cutoff point of 0.70 (Hair et al., 2021). Composite reliability ratings ranged from 0.919 to 0.951, and all constructs had Cronbach's alpha values higher than 0.88. AVE values also exceeded the 0.50 criterion, ranging from 0.739 to 0.829 (Fornell & Larcker, 1981). These findings indicate that all latent constructs were measured with high reliability and validity, enabling a legitimate interpretation of the ensuing structural model outcomes.

According to Henseler et al. (2015), HTMT values below 0.90 shows discriminant validity. Table 3 demonstrates that there is adequate discriminant validity between all first- order constructs because all HTMT values are significantly less than 0.90. Furthermore, the Fornell-Larcker criterion was used to examine discriminant validity. The square roots of the AVE values (0.86 to 0.91) were higher than all correlations between constructs, according to the results displayed in Table 4. This shows that, in comparison to other constructs a construct as a higher proportion of variance with its own indicators.

Table 2: Construct Validity and Reliability

Construct	First-order construct	Indicators	Factor loading	Cronbach's alpha	Composite reliability	AVE
Transformational	Idealized Attributes	4 items	0.836–0.908	0.904	0.933	0.776
	Individual Consideration	4 items	0.902–0.910	0.926	0.948	0.819
	Inspirational Motivation	4 items	0.839–0.885	0.882	0.919	0.739
	Intellectual Stimulation	4 items	0.877–0.920	0.923	0.946	0.813
Transactional	Contingent Reward	4 items	0.841–0.900	0.907	0.935	0.782
	Management by Exception – Active	4 items	0.840–0.908	0.904	0.933	0.777
Laissez-faire	**Laissez-faire**	4 items	0.848–0.932	0.929	0.949	0.823
PSM	Commitment to Public Values	4 items	0.875–0.891	0.908	0.935	0.784
	Compassion	4 items	0.890–0.921	0.929	0.949	0.824
	Self-Sacrifice	4 items	0.881–0.909	0.912	0.938	0.792
	Attraction to Public Policy Making	4 items	0.888–0.930	0.931	0.951	0.829
Employee Performance	Task performance	4 items	0.864–0.923	0.923	0.945	0.812
	Adaptive performance	4 items	0.863–0.928	0.921	0.944	0.808
	Contextual performance	4 items	0.863–0.921	0.916	0.941	0.799

According to the FRLM, laissez-faire leadership is at variance with transformational and transactional leadership behaviors, PSM, and employee performance, as seen by the negative correlations between it and other variables (Bass & Avolio, 1994).These findings validated that the measurement model has sufficient discriminant validity for the next stage of the structural analysis.

Table 3: Hetotrait-Monotrait (HTMT) Ratio Results for First-Order Construct

	LF	adp	conp	tp	app	conre	cop	cpv	ideala	indiv	inspd	intell	mbea	ss
adp	0.379													
conp	0.408	0.716												
tp	0.425	0.745	0.677											
app	0.335	0.590	0.553	0.655										
conre	0.217	0.420	0.316	0.400	0.385									
cop	0.307	0.537	0.522	0.569	0.720	0.406								
cpv	0.314	0.573	0.563	0.621	0.738	0.284	0.701							
ideala	0.413	0.408	0.412	0.590	0.437	0.273	0.399	0.448						
indivc	0.432	0.580	0.645	0.615	0.572	0.317	0.523	0.580	0.485					
inspd	0.413	0.592	0.555	0.616	0.581	0.337	0.482	0.646	0.503	0.641				
intells	0.409	0.472	0.562	0.480	0.493	0.262	0.489	0.617	0.455	0.581	0.644			
mbea	0.145	0.421	0.301	0.415	0.332	0.603	0.329	0.333	0.225	0.326	0.342	0.307		
ss	0.265	0.534	0.520	0.573	0.657	0.389	0.666	0.561	0.425	0.595	0.530	0.452	0.403	

Table4. Fornell–Larcker Criterion Results for First-Order Construct

	LF	Sadp	Scon	Stp	app	conre	cop	cpv	ideal	indiv	inspd	intell	mbea	ss
LF	0.907													
Sadp	-0.360	0.899												
Scon	-0.385	0.659	0.894											
Stp	-0.401	0.687	0.623	0.901										
app	-0.319	0.549	0.512	0.609	0.911									
conre	-0.205	0.389	0.294	0.373	0.360	0.884								
cop	-0.294	0.499	0.484	0.527	0.670	0.377	0.908							
cpv	-0.298	0.526	0.514	0.570	0.679	0.261	0.644	0.885						
Ideal	-0.382	0.374	0.376	0.541	0.404	0.253	0.366	0.407	0.881					
Indiv	-0.410	0.537	0.595	0.570	0.532	0.298	0.486	0.533	0.445	0.905				
inspd	-0.380	0.535	0.498	0.556	0.528	0.306	0.437	0.578	0.448	0.579	0.860			
Intel	-0.382	0.437	0.517	0.442	0.458	0.249	0.454	0.565	0.416	0.537	0.581	0.902		
mbea	-0.135	0.389	0.278	0.383	0.309	0.549	0.306	0.304	0.210	0.301	0.308	0.285	0.882	
ss	-0.253	0.492	0.477	0.528	0.607	0.357	0.614	0.511	0.389	0.549	0.477	0.416	0.369	0.890

Measurement Model Assessment for Higher-Order Constructs

Following the disjoint two stage mechanism, the associations between the lower-order constructs and their corresponding higher-order variables were examined. The results indicate that all the first-order constructs loaded substantially on their relevant second-order dimensions. For transformational behavior, the loading ranges from 0.699 to 0.835, while the dimensions of transactional leadership loaded at 0.877 and 0.833. The results confirm that the first-order constructs sufficiently represent their respective second-order leadership dimensions.

The results from Table 5 indicate that all Cronbach's alpha results of 0.709 to 0.929 not only meet but also exceed the cutoff point of 0.70 (Hair et al., 2021), thus approving that all dimensions possess acceptable internal consistency. More proof of discriminant validity was provided by the square roots of the AVEs being greater than the correlations across the constructs, demonstrating that each construct was empirically different from the others.

Table 5: Reliability and Validity Assessment

Second Order Construct	**Indicators**	**Factor Loading**	**Cronbach's alpha**	**Composite reliability (rho_a)**	**Composite reliability (rho_c)**	**Average variance extracted (AVE)**
			0.868	0.869	0.910	0.716
	App	0.878				
PSM	cop	0.860				
	CPV	0.843				
	SS	0.803				
			0.851	0.854	0.910	0.771
Performance	TP	0.885				
	AdP	0.888				
	ConP	0.860				
Transactional	Conre	0.883	0.709	0.709	0.873	0.775
	mbea	0.877				
			0.801	0.812	0.870	0.627
	ideala	0.699				
Transformational	indivcon	0.828				
	inspd	0.835				
	intells	0.798				

Moreover, the average variance extracted (AVE) results, ranging from 0.627 to 0.823; easily exceed the 0.50 threshold, indicating that there is enough evidence that the constructs reflect the indicators. In other words, each dimension explains over half of the variance of its indicators. This evidence characterizes the measurement framework being strong, which is consistent with

both the FRLM (Bass & Avolio, 1994)and PSM theory as (Perry and Wise, 1990), indicating that leadership styles and PSM factors are separate but connected in the way they impact employee performance in a public sector context.

As illustrated in Table 6, this study shows that the HTMT outputs were below the advised limit of 0.90 (Henseler et al., 2015), thus indicating sufficient discriminant validity. The topmost recorded value (0.869) was between Transformational Leadership and Employee performance, which is quite a reasonable concept. The findings imply that the constructs, leadership styles, PSM, and employee performance are theoretically separate, which is a strong indicator of the validity of the measurement model within the conceptual frameworks of FRLM and PSM Theory.

Table 6: Hetotrait-Monotrait (HTMT) Ratio Results for Second Order Construct

	PSM	**Performance**	**Transactional**	**Transformational**	**Laissez-faire**
PSM					
Performance	0.821				
Transactional	0.565	0.585			
Transformational	0.849	0.869	0.526		
Laissez-Faire	0.372	0.479	0.237	0.561	

The Fornell-Larcker criterion was employed to assess the discriminant validity between latent constructs using the square root of each construct's average variance extracted (AVE) with its correlation among other variables (Fornell & Larcker, 1981).

Discriminant validity is further supported by Table 7, which shows that the square roots of the AVEs were larger than the correlations between the items, showing that each construct was empirically different from the others. For example, PSM's square root of the AVE (0.846) exceeds its correlations with transformational leadership (0.713), transactional leadership (0.442), and laissez-faire leadership (0.344), indicating that PSM is empirically different from these leadership attributes. In the same way, Employee Performance (0.878) is more related to its indicators than to PSM (0.708) or Transformational Leadership (0.722), which is why it has discriminant validity.

The correlation between transformational and transactional leadership was average (r = 0.399), indicating that although the two leadership styles are theoretically related under the Full Range Leadership Model, they remain empirically distinct constructs. Overall, the result for the Fornell–Larcker criterion confirms that each dimension represents a unique theoretical dimension. This analysis supports the acceptability of the measurement model and provides confirmation of sound discriminant validity across the constructs.

Table 7: Fornell–Larcker Criterion for Second Order Construct

	PSM	Performance	Transactional	Transformational	Laissez-Faire
PSM	0.846				
Performance	0.708	0.878			
Transactional	0.442	0.456	0.880		
Transformational	0.713	0.722	0.399	0.792	
Laissez-Faire	-0.344	-0.435	-0.193	-0.489	0.907

To ensure the absence of multicollinearity among indicators, the Variance Inflation Factor (|VIF) results were tested. Table 8 indicates that all variance inflation factor (VIF) results ranges from 1.207 to 2.565, which are less than the recommended threshold of 3.3 by Kock (2015) showing that multicollinearity is not a serious issue and that the predictors are sufficiently independent.

Table 8: Inner Variance Inflation Factor (VIF) Results

	VIF
lf	1.315
Sadp	2.270
Sconp	1.956
Stp	2.098
Transactional	1.189
Transformational	1.505
app	2.438
cop	2.294
cpv	2.114
ss	1.813

Structural Model Analysis

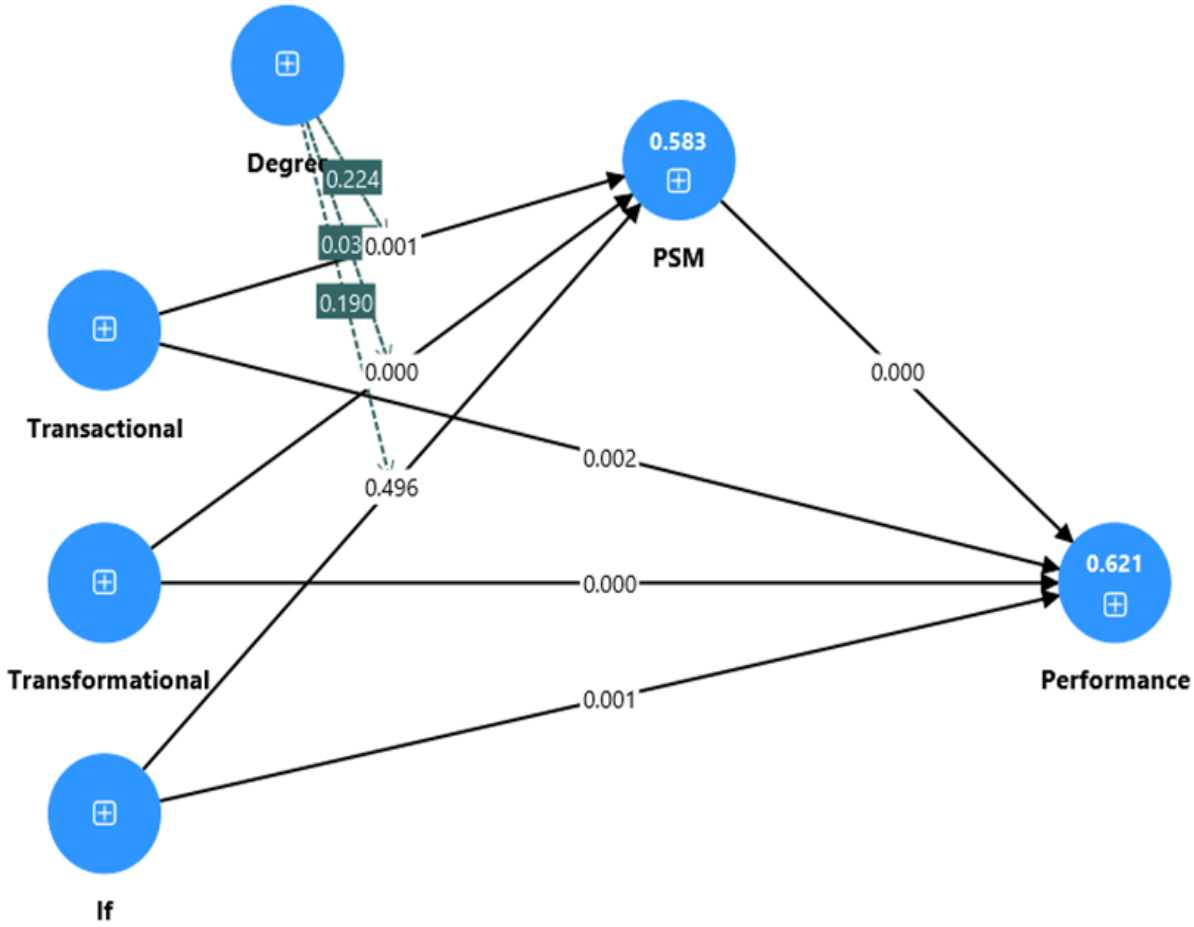


Figure 2: Structural Equation Model

Model Quality Assessment

The explanatory power and predictive relevance of the structural model were gauged through the coefficient of determination (R), effect size (f), Stone-Geissel's predictive relevance (Q), and the significance of the postulated path associations. The findings for the two endogenous constructs, employee performance and PSM, are briefly described.

As indicated in Table 9, the model contributes for a significant amount of variance in employee performance (R = 0.621), signifying that transformational, transactional, and laissez-faire leadership are accounts 62.1% of the variation in employee performance in Oromia's public sector institutions. This degree of explanatory power is more than sufficient for a substantial model as per Hair et al. (2019). Additionally, the effect sizes (f^2 = 0.147) indicate that transformational leadership has a moderate effect on employee performance, whereas transactional leadership (f^2 = 0.037) and laissez-faire leadership (f^2 = 0.024) have comparatively smaller effects, underscoring the different roles that leadership dimensions play in improving

performance outcomes. The model also confirms predictive relevance for employee performance with a Q2 value greater than zero, indicating a satisfactory level of predictive power.

Similarly, transformational, transactional, and laissez-faire leadership account for employees' PSM, with an R^2 value of 0.583, demonstrating that these leadership dimensions explain 58.3% of the variation in PSM. Additionally, the effect size ($f^2 = 0.591$) indicates a substantial practical impact of transformational leadership on worker intrinsic motivation.

Table 9 Quality of the Model

Endogenous Construct	Exogenous Path	R^2	t-Statistic	p-Value	f^2	Q^2
Employee Performance	Transformational→ Employee Performance	0.621	22.622	0.000	0.147	0.064
	Transactional→ Employee Performance				0.037	
	Laissez-faire→ Employee Performance				0.024	
PSM	Transformational → PSM	0.583	15.933	0.000	0.139	0.520
	Transactional → PSM				0.0.22	
	Laissez-faire → PSM				0.000	

Hypotheses Testing

After confirming the measurement model properties were satisfactory, the next step of the analysis was to test the hypothesized relationships using structural model assessment. The hypotheses were tested to evaluate the direct, indirect, and conditional effects of leadership styles, PSM, and employee performance in public sector organizations of the Oromia Regional State.

Table 10 shows that while laissez-faire leadership ($\beta = -0.110$, $p = 0.001$) has a significant effect on employee performance, transformational leadership ($\beta = 0.365$, $p < 0.001$) and transactional leadership ($\beta = 0.134$, $p = 0.002$) have a significant and positive impact. As a result, H1a, H1b, and H1c are confirmed. However, contrary to the expected positive relationship, the effect is negative, indicating that higher levels of laissez-faire leadership are connected with lower employee performance. Therefore, H1c is supported with respect to the presence of a significant relationship, but the observed direction of the effect is negative rather than positive. The findings highlight that effective leadership techniques can significantly enhance employee performance in the public sector, demonstrating the strong influence of leadership behaviors on employment outcomes.

Moreover, transformational leadership ($\beta = 0.641$, $p < 0.001$) and transactional leadership ($\beta = 0.188$, $p < 0.001$) significantly and positively impact PSM, supporting H2a and H2b. Conversely, the results indicate that laissez-faire leadership does not have a significant impact on

PSM (β = 0.005, p = 0.452). Thus, H2c is not supported, which suggested that the absence of active leadership behavior neither enhances nor diminishes employees' motivation to serve the public interest in a meaningful way.

The findings suggest that leadership approaches that communicate a vision provide support, and set clear expectations for public employees to increase their PSM are compatible with the notion that leadership may increase employees' internal willingness to serve the public good. As a result, a strong basis is created for more confidently moving on to the mediation and moderated mediation analyses.

Table10: Hypothesis Testing Direct Effects

Hypotheses	Path	B	t-Statistic	p-Value	LCI UCL	Remark
H1a	Transformational → Employee-Performance	0.365	6.703	0.000	0.276-0.455	Supported
H1b	Transactional → Employee-Performance	0.134	2.910	0.002	0.059- 0.207	Supported
H1c	Laissez-faire → Employee-Performance	-0.110	3.090	0.001	0.169-0.052	Supported
H2a	Transformational → PSM	0.641	15.434	0.000	0.571-0.708	Supported
H2b	Transactional → PSM	0.188	4.861	0.000	0.127 -0.253	Supported
H2c	Laissez-faire → PSM	0.005	0.121	0.452	0.067-0.081	Not supported

According to the results of H3, PSM plays a significant mediating role in the association between transformational and transactional leadership and employee performance (β = 0.163, p < 0.001; β = 0.054, p = 0.002), hence H3a and H3B are supported whereas the mediating effect is not significant for laissez-faire leadership (β = -0.000, p = 0.496), H3c is not supported. The results suggest that one of the ways in which transformational and transactional leadership increase employee performance is through raising employees' PSM levels, while laissez-faire leadership does not operate through this motivational mechanism.

Regarding H4 the moderating influence of educational level (degree vs. postgraduate) on the indirect relationship between leadership dimensions and employee performance through PSM was tested using interaction terms. The interaction effect for transformational leadership was found to be positive and statistically significant (β = 0.062, p = 0.039). The results show that the impact of transformative leadership on employee performance through PSM is considerably moderated by educational level. It shows that the conditional effect of education is specific to transformational leadership, while employees' responses to transactional and laissez-faire leadership through PSM do not differ significantly across educational levels.

In general, the evidence reported in Table 11 partially supports the mediating role of PSM and the moderating role of educational level. The findings indicate that leadership influences

employee performance via both direct behavioral channels and motivational processes, especially in the context of transformative leadership, with these mechanisms being contingent upon employees' educational attainment.

Table11: Hypothesis Testing Indirect and Interaction Effect

Hypotheses	**Path**	**B**	**t-Statistic**	**p-Value**	**LCI UCL**	**Remark**
H3a	Transformational→ PSM→ Performance	0.163	4.678	0.000	0.113 -0.230	Supported
H3b	Transactional→ PSM→ Performance	0.054	2.887	0.002	0.028 -0.090	Supported
H3c	Laissez-faire→ PSM→ Performance	-0.000	0.009	0.496	-0.037 -0.037	Not supported
H4a	Degree x Transformational ->PSM→ Performance	0.062	1.765	0.039	0.006 -0.122	Supported
H4b	Degree x transaction -> PSM→ Performance	0.022	0.741	0.229	0.024 -0.074	Not Supported
H4c	Degree x laissez-faire -> PSM→ Performance	-0.030	0.863	0.194	0.090 -0.022	Not Supported

The findings from Table 12 show that the indirect impacts of transformational and transactional leadership on employee performance through PSM are positive and statistically significant at both education levels, but stronger among degree holders.

Table12: Conditional Indirect Effect (moderated mediation)

Education –Level	B	t-Statistic	p-Value	LCI UCL
Transformational -> - PSM-> Employee performance Degree at one	0.229	6.056	0.000	0.160-0.308
Transactional -> - PSM-> Employee performance Degree at one	0.081	2.950	0.003	0.037-0.147
Laissez-faire -> - PSM-> Employee performance Degree at one	-0.015	0.632	0.528	-0.063-0.030
Transformational -> PSM-> Employee performance Degree at zero	0.163	4.526	0.000	0.099-0.242
Transactional -> PSM-> Employee performance Degree at zero	0.054	2.830	0.002	0.022-0.095
Laissez-faire -> PSM-> Employee performance Degree at zero	-0.008	0.348	0.728	-0.051-0.036

Transformational leadership has the most significant impact (β = 0.229 for undergraduate versus 0.163 for postgraduate), followed by transactional leadership (β = 0.081 for undergraduate against 0.054 for postgraduate). In contrast, laissez-faire leadership shows no significant indirect effect at either level. This suggests that PSM more successfully mediates the relationship

between transformational and transactional leadership and performance for employees with lower educational attainment, whereas passive leadership is unsuccessful irrespective of education level.

Discussion

The study investigated the direct, indirect, and conditional indirect impacts of transformational, transactional, and laissez-faire leadership styles on worker performance in the Oromia public sector. The findings offer empirical support for the proposed paradigm and show how different leadership behaviors impact performance through motivational mechanisms.

The findings show that transformational leadership has a significant positive influence on employee performance, while transactional leadership has less of an effect. The result shows that laissez-faire leadership has a significant negative effect on employees' performance. This agrees with the FRLM (Bass & Avolio, 1994), which suggests that transformational action is more effective in improving performance. The finding indicate that the performance of leadership depends on the capacity of leaders to inspire, support, and involve employees in ways that go beyond ordinary interactions in support of the claims of Judge & Piccol (2004), Wang et al. (2011), Banks et al. (2016), and Hameduddin & Engbers (2022b).

Regarding PSM, transformational leadership markedly increases employees' motivation to serve the public, while transactional leadership exerts a minimal influence, and laissez-faire leadership has no significant impact. This indicates that supportive and values-based leadership behaviors are more effective in fostering intrinsic motivation that is compatible with public service. The findings are consistent with PSM theory (Perry & Wise, 1990), which highlights how employees' commitment to public values is shaped by leadership. Furthermore, this study supports the empirical study by Khan et al. (2018) and Abubakar & Ahmed (2021).

Additionally, the study demonstrates that PSM has a positive link with employee performance and serves as a mediator between leadership and performance. Specifically, PSM mediates the relationship for transformational and transactional leadership, but not for laissez-faire leadership. This implies that leadership improves performance not only directly but also indirectly by strengthening employees' internal motivation toward public service, which is consistent with Perry & Wise (1990). Transformational leadership seems especially proficient at engaging this motivational route, whereas laissez-faire leadership is deficient in this regard.

However, the finding deviates from the argument by Bass & Riggio (2006), Deci and Ryan (2000), empirical study by Hundie & Habtewold (2024) regarding Laissez-faire's role. While the FRLM permits a minor benefit of laissez-faire leadership in certain circumstances, the negative outcome in the Oromia public sector may indicate that its absence is detrimental to performance due to inadequate employee autonomy, competence, and organizational support.

According to the results, transformational and transactional leadership in public sector organizations function differently from laissez-faire leadership. The current results show that such benefits were not apparent in the Oromia public sector, despite some studies suggesting that limited leader interaction may help highly trained and self-directed personnel by boosting

autonomy. Instead, the negative effect on employee performance and the absence of a significant relationship with PSM suggest that employees require active guidance, support, and coordination from their leaders to achieve organizational goals.

The findings are more consistent with the dominant view of FRLM, which characterizes laissez-faire leadership as a passive form of leadership associated with role ambiguity, delayed decision-making, and limited managerial support (Judge & Piccolo, 2004; Skogstad et al., 2007). In public organizations, where service delivery often depends on coordination, accountability, and adherence to public values, the absence of leadership may undermine employees' ability to translate their motivation into effective performance outcomes.

The moderated mediation inquiry demonstrates that the indirect impacts of transformational and transactional leadership on performance through PSM are stronger among degree holders than postgraduate employees, while no significant indirect effect is observed for laissez-faire leadership. This indicates that the efficacy of leadership in enhancing performance through motivation depends on employees' educational background. This result is consistent with the HCT (Becker, 1975), which suggests that because highly educated people have more internalized values and self-control, they may rely less on external leadership behaviors.

A significant implication of this finding is that employees with different educational backgrounds may respond differently to the motivational mechanisms activated by leadership. From a HCT perspective, postgraduate employees possess greater professional knowledge, expertise, and self-confidence, which may reduce their dependence on leadership behaviors as a source of motivation. Similarly, SDT suggests that highly educated employees may place great value on autonomy and professional discretion in performing their duties. Consequently, transformational leadership may generate stronger motivational effects among bachelor's degree holders, whereas postgraduate employees may require great opportunities for participation, delegation, and independent problem solving to achieve comparable motivational gains. This finding highlights the importance of considering employee characteristics when evaluating leadership effectiveness in public sector organizations.

Conclusion

This study demonstrates that leadership influences employees' performance not only through direct behavioral effects but also through employees' PSM. While transformational and transactional leadership enhance performance through this motivational mechanism, laissez-faire leadership fails to activate such a process and is associated with poorer performance outcomes. More importantly, the findings reveal that the success of leadership through PSM is contingent upon employees' educational backgrounds, with stronger indirect effects observed among bachelor's degree holders than postgraduate employees. By integrating FRLM, PSM, SDT, and HCT, this study advances understanding of how and for whom leadership influences performance in public sector organizations. The results underscore the importance of adopting context-sensitive and employee-centered leadership approaches rather than relying on uniform managerial practices.

Recommendations

The finding suggested that public sector organizations should prioritize leadership development programs that strengthen transformational leadership behaviors, particularly those that inspire employees, communicate a clear public sector vision, and foster commitment to organizational goals. Given the important mediating role of PSM, managers should create work environments that reinforce employees' sense of purpose, contribution, and service to society. The negative effect of laissez-faire leadership further indicates the need for active leadership practices that provide guidance, support, and accountability.

Moreover, the results demonstrate that employees do not respond uniformly to leadership interventions. Therefore, organizations should move beyond one-size-fits all leadership approaches by adopting leadership practices to employees' educational backgrounds. Accordingly, leadership training programs should equip managers with the skills to tailor their leadership approaches to the needs and characteristics of different employee groups.

Statement of Conflict of Interest

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Data Availability Statement

The data available from the corresponding author upon reasonable request.

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