

Leadership, learning, well-being, and justice in educational organizations

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Leadership, learning, well-being, and justice in educational organizations

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Editorial: Leadership, learning, well-being, and justice in educational organizations

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KEYWORDS

leadership, well-being, justice, organizational trust, innovation, inclusion, educational organizations, leadership style

Editorial on the Research Topic

Leadership, learning, well-being, and justice in educational organizations

School leaders are responsible for shaping a collective vision for inclusion and fostering a school culture centered on social justice and wellbeing, ensuring every student feels valued and supported in their educational journey. Accordingly, the leadership's role is to mobilize and inspire purposeful, interdependent action through a shared vision that favors climates of innovation and inclusion and enhances teachers' agency and learning cultures within educational organizations. Hence, the Research Topic "Leadership, learning, well-being, and justice in educational organizations" aims to address existing research gaps by urging the reflection on leadership practices that effectively enhance wellbeing across multiple dimensions—personal, professional, organizational, and social—while contributing to a deeper understanding of their transformative potential within educational settings. Understanding how leaders' practices can be optimized and investigating educational leadership's demands, drivers, and challenges may enhance quality teaching and inclusive learning. Regarding these tenets, the following narrative encapsulates the main ideas on educational leadership evoked in the nine articles related to the present Research Topic.

The article "Harmonizing success: unraveling the interplay of principal entrepreneurial leadership, teacher efficacy, and organizational effectiveness in English training institutions of China" highlights the existence of an important influential loop between teachers and principals (Jinke et al.). Principals' entrepreneurial leadership positively impacts teacher efficacy, enhanced teacher efficacy improves organizational effectiveness, and the resulting organizational improvements can motivate and inform principals to continue effective leadership practices, reinforcing the cycle. This dynamic emphasizes the interdependence of principals and teachers in fostering a thriving educational environment characterized by organizational effectiveness.

Leadership that fosters and preserves the values and cultures in educational institutions is assembled in the article "The role of transformational leadership in enhancing school culture and teaching performance in Yemeni public schools" (Alzoraiki et al.). This study shed light on the mechanisms to improve school culture and educational leadership to implement policies for better student outcomes. Fostering and preserving values and

cultures can be ensured through leaders who adopt idealized influence, inspirational motivation, intellectual stimulation, individualized consideration, and deep concern for ethical considerations and the social environment. Evidence supports the existence of loops in which transformational leadership directly affects teachers' performance and enhances their understanding of school culture, which, in turn, reinforces transformational leaders' capabilities.

School cultures of improvement foster a shared commitment to continuous learning, creating an environment where students, teachers, and leaders strive for excellence. The article "*Examining the status of school improvement program implementation in primary schools: a case study in South Ethiopia region*" provides evidence that quality improvement packages designed to enhance the schools' management capacity, improvement, decision-making, and sustain a learning environment are unevenly developed in different schools (Shanko and Kabtyimer). However, connections between program execution and educational outcomes shed light on systemic challenges inhibiting school effectiveness. Overall, the study supports a reflection on the complexities regarding implementing large-scale educational reforms and the importance of attending to local contexts and capacity-building needs when rolling out system-wide initiatives.

The ethical dimension of principals' leadership is the object of analysis in the article "*The relationship between ethical leadership, teacher motivation, and commitment in public schools in Portugal*" (Neves). The study addresses an important dimension of wellbeing in educational organizations, focusing on the leadership style. In opposition to despotic leadership, ethical leadership can foster intrinsic motivation and organizational commitment, ensuring a healthy and productive work environment for teachers.

Despite the diversity of leadership styles, understanding their effects is pivotal, especially given the pressing need to construct new, inclusive educational environments. "*Challenges posed to leadership: systematic review based on the relationships between curricular autonomy and teachers' well-being*" is an article that systematizes demands, drivers, and challenges leaders face in promoting a school culture in a context of innovation and inclusion (Lima et al.). Taking the Portuguese context as a starting point, it can be inferred that fostering an inclusive and innovative school culture requires leaders to adopt policies that value teacher wellbeing and promote opportunities for ongoing training. On the other hand, promoting an inclusive and innovative school culture presents multifaceted challenges for leaders, whose actions must focus on managing change, and inspiring and mobilizing all those involved. Loops between the macro-level and school levels can guarantee time and space for pedagogical reflection, and provide tools to help overcome bureaucratic barriers and promote a culture of constructive evaluation.

The previous articles express the importance of an educational environment for students learning and improving teachers' practices mobilized by attentive leaders. In this regard, the article "*Fostering a productive educational environment: the roles of leadership, management practices, and teacher motivation*" adds that a principal's Leadership significantly enhances both teacher motivation and teacher performance, underscoring the critical

role of effective leadership in inspiring and improving teacher performance (Sariakin et al.). In contrast, school management practices were found to impact teacher performance significantly, but did not significantly affect teacher motivation, suggesting that management practices alone may be insufficient to boost motivation levels among teachers. The research provides valuable insights and guidance for educators and administrators aiming to foster a productive educational environment, with teacher motivation as a key driver of teacher performance and strong leadership, effective management practices, and targeted strategies to enhance teacher motivation and performance.

The features regarding teachers' motivation and the complexity surrounding school cultures discussed above also pertain to the articles "*Teacher mobilizers: the power of leading learning and mobilizing teacher communities*" and "*The role of leaders in shaping school culture*" that explore the matters of driving environments for school learning (Prasetia et al.; Plaku and Leka). The former study explored the role of mobilizer teachers in leading learning and driving learning communities and their impact on student learning, finding that instructional leadership effectively leads learning and community in the school. In the later study, regarding leaders' roles in shaping school culture over time, the focus rests on cultivating a benevolent and productive environment and fostering satisfaction among staff. Otherwise, regarding schools with negative cultures, indifference, organizational fragmentation, interpersonal conflicts, and a lack of job satisfaction appear, making changes difficult.

Finally, the article "*Blurred boundaries: exploring the influence of work-life and life-work conflicts on university teachers' health, work results, and willingness to telework*" retrospectively examines the extreme conditions of teleworking during the COVID-19 lockdown (Sobral et al.). The study gathered evidence that work-life and life-work conflicts affect burnout and perceived performance differently, with life-work conflict negatively impacting performance. This highlights the critical role of leadership in mitigating these conflicts, as leaders' actions directly shape work design, individual and team goals, and the overall organizational climate, thereby influencing employee well-being and performance outcomes.

The findings regarding the nine papers in the Research Topic contributed to expanding knowledge regarding educational leadership practices, wellbeing, and school culture from the perspectives of leadership styles, teacher motivation, organizational effectiveness, and the interplay between innovation and inclusion. The Research Topic provides new comprehension for government educational departments, principals, and teachers regarding the organizational effectiveness of schools. The knowledge derived from the nine papers provides educational stakeholders with a comprehensive roadmap for effectively addressing social challenges through leadership by offering insights regarding the key factors that enhance leadership, learning, wellbeing, and justice within educational organizations.

Although the nine articles included in this Research Topic provide valuable insights, they do not represent the

final word on the subject. Expanding understanding of leadership dynamics and the interplay between wellbeing and organizational effectiveness can further enrich the knowledge regarding educational organizations. Justice-oriented leadership, wellbeing and resilience among school leaders, and emotional intelligence in school leadership are still open research domains, demanding inquiry on how they may promote better performance, school effectiveness, inclusion, and equity in schools.

Author contributions

JA: Writing – review & editing. MT: Writing – review & editing. LS: Writing – original draft, Writing – review & editing.

Conflict of interest

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

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Harmonizing success: unraveling the interplay of principal entrepreneurial leadership, teacher efficacy, and organizational effectiveness in English training institutions of China

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For a long time, teacher efficacy and organizational effectiveness have been researched in primary, junior high schools or university settings. Training institutions are a special type of profit-making educational organization, there is relatively little research conducted on them. Entrepreneurial leadership is an innovative leadership concept that, to some extent, contributes to improving teacher efficacy and organizational effectiveness, which is rarely studied in the educational domain. In accordance with the tenets of the open social system theory, this study proposed a model that teacher efficacy has a mediation effect on principal entrepreneurial leadership and organizational effectiveness. To evaluate the proposed model and explore the relationships among principal entrepreneurial leadership, teacher efficacy and organizational effectiveness, this study researched 381 teachers in English training institutions via Pearson correlation analysis and mediation effect analysis. The findings showed that positive and significant relations among principal entrepreneurial leadership, teacher efficacy and organizational effectiveness, and confirmed that teacher efficacy has a mediating effect on principal entrepreneurial leadership and organizational effectiveness in training institutions. These findings contributed to expanding the implementation of open social system theory from the three perspectives, providing new comprehension for government educational departments, principals and teachers in the organizational effectiveness of training institutions.

KEYWORDS

organizational effectiveness, entrepreneurial leadership, teacher efficacy, English training institutions, educational administration

1 Introduction

As one of the common international languages, English is extensively utilized in the worldwide. To cultivate English-speaking professionals, countries and universities have set up English majors. In China, more than 90% of students are learning English at schools or other training institutions (Ding and Yang, 2019). To gain higher English examination scores,

students will attend off-campus English classes after school (Wang, 2018; Gao and Xu, 2020). Currently, more than 70,000 organizations offer English language training in China (Gao and Xu, 2020). It is noteworthy that English training institutions are not like traditional schools as they combine business and educational patterns. The comprehensive evaluation to assess the success pertaining to this unique kind of profit-making educational institution for non-English speaking nations from both a business and educational standpoint remains an unexpected area within academic discourse.

The process of organizational management entails the coordination of financial, human, and social resources through departmental integration inside organizations. This process ultimately leads to the establishment of organizational, social, and individual values (Hitt et al., 2011). School based organizational management represents a global drive to improve educational quality and organizational effectiveness (Zheng, 2002). The effectiveness of an organization can be seen in how best it establishes and utilizes these resources (Zhang et al., 2020). Principal and teachers as key figures, previous research has established the correlation study between principals' leadership and organizational effectiveness, underscoring that entrepreneurial leaders adeptly navigate challenges associated with resource integration and value generation (Luo and Ye, 2012; Croucher et al., 2017; Zhu et al., 2023). And some literature also find that principal entrepreneurial leadership and teacher efficacy are related to organizational effectiveness (Khan, 2021). Few studies have investigated the mechanism of the influence of principal entrepreneurial leadership on teacher efficacy and organizational effectiveness, especially in profit-making educational organizations. Besides, some higher education institutions fail to adapt to the changing environment and expectations of social requirements, become less effective and disappear due to obsolescence (Demir, 2021; Zhu et al., 2023). To fully exploit the organizational effectiveness, the key programs for educational reform that have been implemented in numerous nations are to identify the influencing variables of effective schools. These programs prioritize a dedicated focus on the systematic examination of effective schools. However, there is little literature on the issue of improving organizational effectiveness in training institutions.

Empirical evidence indicates that principal leadership and teachers' self-efficacy impact the development of organizational effectiveness (Liu and Hallinger, 2018; Khan, 2021). In pace with leadership development, trait theory, attribution theory, contingency theory, transformational leadership theory, and instructional leadership theory, entrepreneurial leadership is a new type of leadership that combines entrepreneurial and leadership to organize resources strategically (Ireland and Hitt, 1999; Covin and Slevin, 2017) from both personal and organizational levels. Following the promulgation of educational policies, China has paid more attention to the measurement dimension of leadership behavior and teaching leadership (Zhu et al., 2023). And in some developed countries, fewer universities have implemented entrepreneurship education programs to teach entrepreneurial thinking (Eesley and Lee, 2021; Zhu et al., 2023; He et al., 2024). However, in general, the research on principal entrepreneurial leadership behavior in China is still in the initial stage and has not been thoroughly researched or implemented (Liu et al., 2022), and empirical research is also lacking (Zhang et al., 2020; He et al., 2024). Thus, in-depth analysis is required to fully comprehend the dimensions of principal entrepreneurial leadership in educational organizations and its impact on organizational effectiveness.

Teachers' self-efficacy is teachers' personal ability beliefs to prepare, manage, and carry out school teaching activities to influence desired students' performance (Bandura, 1995; Skaalvik and Skaalvik, 2007). Teachers with higher teacher efficacy will constantly update their knowledge base and teaching skills to ameliorate teaching quality and improve teaching service, enhancing students' study engagement and gradually promoting organizational performance and effectiveness (Khanshan and Yousefi, 2020). Past researchers studied teacher efficacy in various categories of school organizations, ignoring the efficacy performance of teachers in training institutions. Many empirical researches on teacher efficacy has been conducted in the West (Kuang and Deng, 2010; Minghui et al., 2018; Fackler et al., 2021; Ding and Hong, 2023), and mentioned the issues that considering the application of teacher efficacy taking different forms in varying cultures and the problem of cross-cultural adaptability (Liu et al., 2022; Wang et al., 2022). Based on the above limitations and previous research, the interactive relationship between principal entrepreneurial leadership and teacher efficacy has not been comprehensively studied. To address the influence factors in the profit-school organizations and fill the gap in the literature, this study investigated the relations among organizational effectiveness, principal entrepreneurial leadership, and teacher efficacy, examining the mediation effect of teacher efficacy in English training institutions in China. On the one hand, this study enriches and adds new knowledge on the implementation of open social system theory from the combination pattern of traditional schools with business organizations. Raising the context study and understanding of open social system theory from the perspective of organizational effectiveness involves integrating principal entrepreneurial leadership and teacher efficacy. On the other hand, the results of this study will encourage the government educational departments and educational organizations to gain a deeper understanding of organizational effectiveness. Strengthen its supervision mechanism to the service quality of English training institutions, reinforce the examination of teachers' qualifications and abilities. Contributing to create a better English learning environment, qualified services and higher education capacities for the young generation in China.

2 Literature review

Organizational management is a dynamic and interactive cyclical process. The open social system reputes that the school organization is an open system (Scott and Davis, 2008), the classroom is regarded as a social system by nature. The openness of the school means continuous interaction and communication with the external environment, the schools' output is the result of the interaction of teaching and learning. The effectiveness indicators can be derived from each stage of input, process, output in the open-social system cycle. Hence, this study discusses the relationship among principal entrepreneurial leadership, teacher efficacy, and organizational effectiveness.

2.1 Principal entrepreneurial leadership and organizational effectiveness

Das (2011) supported the idea that organizational effectiveness refers to its capability to utilize resources to achieve of organizational

goals. Youzi and Jian (2022) explained that organizational effectiveness can be regarded as the success achieved by the unique capabilities and values of the human resources of organizations. It involves coordination, cooperation, and full utilization of resources at all levels and departments within the organizations to achieve the established mission (Jacobsen et al., 2022). Cameron (1978) developed a scale to measure organizational effectiveness in terms of teacher performance, student learning outcomes, and principal resource utilization, which included eight dimensions. Student satisfaction with the educational services provided includes teaching quality and methods or other academic support services. The satisfaction of faculty and staff with the work environment, working conditions, institutional management and support. Students' academic progress refers to the development of knowledge understanding, academic skills and knowledge application. The professional development of faculty and staff in the teaching and academic fields, as well as their teaching quality, research level, and professional competence. Student personal development as well as career development. System openness and community interaction. The ability of institutions to acquire funding, manpower, and other resources to support the continuous improvement activities.

In educational organizations, principals arrange teaching syllabuses, control teaching quality, guarantee students' growth, and performance, as well as exploit development opportunities for improving organizational improvement and effectiveness (Leithwood and Jantzi, 2006). Roebuck (2011) defined entrepreneurial leadership as lowering risks, constantly innovating, seizing opportunities, taking personal responsibility, and managing change in a dynamic environment, which encourages more supporters to pursue shared objectives through proactive entrepreneurial leadership behavior. Thornberry (2006) proposed five dimensions to measure entrepreneurial leadership. Specially, principal miner behavior is to promote organization development by tapping into existing resources and opportunities. Principals accelerator behavior takes measures to accelerate the development of the organizations, includes quickly promoting the implementation of new projects, strengthening marketing and improving the speed of curriculum development to quickly respond to market demand and enhance the competitiveness of the organization. The explorer behavior of principals is to enhance the development of organizations by exploring new fields or external markets. Principal integrator behavior refers to improve the organizational operations by integrating various resources and stakeholders. General entrepreneurial leadership behavior is the broad entrepreneurial behavior exhibited by principals.

Entrepreneurial leadership will boost principal capability and behavior to accomplish various students' and faculties' needs. It is also beneficial to fulfill the constantly evolving needs of the organizational environment from the three main perspectives. First, it includes the way of thinking and actions in school administration (Kuratko, 2007). Secondly, it involves the ability to deal with challenges and constraints, continuous innovation, as well as flexibly responding to a competitive as well as rapidly changing environment (McGrath and MacMillan, 2000), and thirdly, exploring strategic value creation and effectiveness improvement (Gupta et al., 2004). Entrepreneurial leadership attributes enhance organizational performance, achievement and effectiveness for future development (Fontana and Musa, 2017; Liu and Xi, 2021). According to the literature findings, principal entrepreneurial leadership has a significant relationship with school effectiveness (Dahiru et al., 2017; Lope Pihie et al., 2018), performance,

and quality (Ruvio et al., 2010; Kasim and Zakaria, 2019; Ghazali et al., 2020). Nonetheless, the relationship between principal entrepreneurial leadership and organizational effectiveness in the education field has not received enough attention from scholars. Therefore, the focus of this study is to measure whether principal entrepreneurial leadership will have a direct or indirect impact on organizational effectiveness in the profit-making educational organization of training institutions.

2.2 Teacher efficacy and organizational effectiveness

Bandura (1997) defined self-efficacy as beliefs in the person's capability to manage and implement courses of action required to organize prospective situations. Stemming from Rotter (1982) the locus of control concept in social learning theory, within the social cognitive theory, Gibson and Dembo (1984) opined the sense of self-efficacy is the teacher's evaluation capability to bring about positive behavior changes in students. Alternatively, Tschannen-Moran et al. (1998) raised a comprehensive integration model for teacher efficacy combining the concept of Rotter's locus of control and Bandura's self-efficacy to analyze the cyclical nature of the teacher efficacy process. In pedagogy, teacher efficacy is teachers' belief in their capability to provide effective instructional practices in achieving teaching objectives, control classroom management and improve students' learning performance (Tschannen-Moran and Hoy, 2001). Instructional practice is the teaching methods, strategies, and activities adopted by teachers in the teaching process. Student engagement is the level of student engagement and involvement in the learning process. Classroom management refers to the ability of teachers to manage and organize student behavior, course progress, and classroom order in the classroom. A higher teacher efficacy will indicate a higher enthusiasm for and consciousness for teaching (Xin et al., 1994), cultivate a positive learning atmosphere (Fackler and Malmberg, 2016; Xia, 2016), and guarantee the organization effectiveness performance (Hu et al., 2019; Waweru et al., 2021). Former studies have confirmed the direct influence relationship between teacher efficacy and some dimensions of organizational effectiveness in primary schools (Gowrie and Ramdass, 2014), middle schools, high schools (Ninković and Knezevic-Florici, 2018) or universities (Lu, 2010) from different countries. Since they do not involve other type of schools, such as training institutions, further exploration is needed.

2.3 Principal entrepreneurial leadership and teacher efficacy

In educational settings, principals need to establish schools' future development directions and orchestrate resources to guarantee high-quality service for students. There is a hierarchical relationship between principals and teachers in the organizational structure, and constructing good interaction and cooperation between principals and teachers is the key to the effective operation of schools. This promotes create a positive teaching atmosphere to strengthen teachers' professionalism and improve teacher efficacy development. Principal entrepreneurial leadership positively impacts teachers' behavior, promoting teachers to be more motivated, productive, innovative, and

creative (Zainal and Mohd Matore, 2021; Brauckmann-Sajkiewicz and Pashiardis, 2022). This means that principal entrepreneurial leadership focuses more on the sustainability of the teachers and organizations. If the principal has a higher sense of entrepreneurial leadership behavior, it will be more conducive to improving teachers' work enthusiasm, thereby improving teacher efficacy. Thus, it is imperative to investigate the potential impact of principal entrepreneurial leadership on teacher efficacy in English training institutions.

2.4 Teacher efficacy as a mediator between principal entrepreneurial leadership and organizational effectiveness

Principals exert influence on teachers through the role of ideological leading, action guidance, and inspiring encouragement directly, and on students via curriculum goal planning, teacher teaching supervision, and school climate indirectly. Meanwhile teachers act as a bridge between principals and students directly affecting students' achievement and organizational performance. According to previous research, teacher efficacy is related to principal leadership and school performance (Denham and Michael, 1981; Burke and Reitzes, 1991). The characteristics as well as behaviors of principal entrepreneurial leadership supervise and control the teaching quality of teachers' classroom management and student engagement, also enhance the self management and self efficacy in teaching activities (Mishra and Misra, 2017). Student achievement progress and high satisfaction, faculty and teacher satisfaction represent the high organizational effectiveness (Croucher et al., 2017). High-practice leadership will facilitate teacher's working performance and achieve high teachers' self-efficacy, improving students' satisfaction with the organization's performance (Zheng, 2002; Zhang et al., 2020; Wang et al., 2022). Although there is no direct evidence that teacher efficacy has a mediating effect between principal entrepreneurial leadership and organizational effectiveness, some scholars have found that teacher efficacy mediates different types of principal leadership and organizational performance (Teh et al., 2015; Yasin, 2017; Liu et al., 2022). It is reasonable to infer that teacher efficacy is affected by principal entrepreneurial leadership, which in turn, affects organizational effectiveness. Therefore, this study propose four hypotheses:

H1: There is a significant relationship between principal entrepreneurial leadership and organization effectiveness in English training institutions.

H2: There is a significant relationship between teacher efficacy and organization effectiveness in English training institutions.

H3: There is a significant relationship between principal entrepreneurial leadership and teacher efficacy in English training institutions.

H4: There is a mediating effect of teacher efficacy on the relationship between principal entrepreneurial leadership and organizational effectiveness in English training institutions.

3 Measures

3.1 Participants

This study used a quantitative technique in accordance with the research objectives, via a survey research design to achieve the study aims. The data in this study was collected from the largest population of Henan province, located in the central part of China. To ensure sample representatives, this study selected two cities, Zhengzhou city and Xinxiang city of Henan province in China. Zhengzhou is the capital city of Henan province, which has various and competitive market conditions for the development scale of the English training institutions, and Xinxiang city represents the small-medium size city of Henan province. Using proportionate stratified random sampling, a total of 425 teachers from 35 English training institutions participated in the survey. After systematic shifting, 381 are considered valid with an effective rate of 95.73%, 306 are from Zhengzhou City and 75 are from Xinxiang City. There are 132 male (32.6%) and 249 female (65.4%) respondents, of whom half are participants under 30 years old. Most participants hold bachelor's degrees with less than 5 years of teaching experience.

3.2 Instruments

The organizational effectiveness scale was developed by Cameron (1978) and composed of 30 items for teachers to assess organizational effectiveness performance from eight dimensions. It includes Student Educational Satisfaction (4 items), Faculty and Administrator Employment Satisfaction (4 items), Student Academic Development (3 items), Professional Development and Quality of the Faculty (4 items), Student Personal Development (3 items), Student Career Development (4 items), System Openness and Community Interaction (4 items), and Ability to Acquire Resources (4 items). The five Likert scale items are denoted by 1 (never) and 5 (almost always). Participants were asked to provide an overall evaluation of the organizational management and operational effectiveness of the training institution. Consequently, the instrument shows an acceptable level of internal consistency with Cronbach's α of 0.944.

The entrepreneurial leadership questionnaire by Thornberry (2006) was used to measure principal entrepreneurial leadership. It is a five-point scale of 1 (almost never) and 5 (almost always) including 50 items on five dimensions: General Entrepreneurial Leadership (9 items), Explorer Behavior (10 items), Miner Behavior (6 items), Accelerator Behavior (11 items) and Integrator Behavior (14 items). Participants were asked to rate the principal's behavioral performance and management capabilities in the training institutions. The current instrument presents an acceptable level of internal consistency with Cronbach's α of 0.950.

The teachers' sense of efficacy scale was designed by Tschannen-Moran and Hoy (2001) to describe teacher efficacy. The scale contained 24 items from three perspectives to describe the Efficacy in Instrumental Practice (8 items), Efficacy in Student Engagement (8 items), and Efficacy in Classroom Management (8 items). The 5-point rating scale was used to assess the respondent's responses ranging from 1 (nothing) to 5 (a great deal). Participants were asked to self-evaluate their ability to promote student learning engagement and studying performance. The instrument shows an acceptable level of internal consistency with Cronbach's α of 0.976.

3.3 The analytical approach

The study applied SPSS (version 25) and AMOS (version 24) software to do statistical analysis. SPSS assessed the descriptive statistics, reliability test, and correlation analysis while AMOS measured the structural equation modeling. Descriptive statistics (frequencies, mean, and standard deviation values) indicated the distribution characteristics of the respondents and the level of principal entrepreneurial leadership, teacher efficacy, and organizational effectiveness in English training institutions. Besides, AMOS used confirmatory factor analysis to check the assessment for fit indices and individual factor loading by model fit, convergent validity, and construct reliability. The structure model was constructed to examine the relationship between principal entrepreneurial leadership and organizational effectiveness; teacher efficacy and organizational effectiveness; principal entrepreneurial leadership and teacher efficacy. Then, through bootstrap ($B=5,000$) the mediation model was established to verify whether teacher efficacy is the intermediary between principal entrepreneurial leadership and organizational effectiveness. Figure 1 depicts the mediation of teacher efficacy on the relationship between principal entrepreneurial leadership and organizational effectiveness. Model (a) proposes the direct influence on the relationship between principal entrepreneurial leadership and organizational effectiveness, and model (b) proposes the mediation effect of teacher efficacy on the relationship between principal entrepreneurial leadership and organizational effectiveness.

4 Findings

4.1 Descriptive statistics and correlation analysis

The descriptive statistics in Appendix 1 list the gender, age, educational background, working years and monthly income distribution of the teacher participants. Most of the participants' working experience ranges from 0 to 5 years (57.7%), and their

monthly income is less than 8,000 CNY (1,000 USD) (79.2%). As presented in Table 1, the overall organizational effectiveness ($M=3.672$, $SD=0.850$) stands at a high level in English training institutions. Meanwhile, the overall entrepreneurial leadership ($M=3.495$, $SD=0.954$) in English training institutions is at a moderate level. The overall teacher efficacy ($M=3.674$, $SD=0.876$) stays at a high level in English training institutions. Appendix 2 lists each dimension's level of principal entrepreneurial leadership, teacher efficacy and organizational effectiveness.

To investigate the relationships among the three variables, Pearson correlation analysis was used. The findings demonstrate that there are statistically significant correlations between principal entrepreneurial leadership and organizational effectiveness ($r=0.635$, $p<0.01$), teacher efficacy and organizational effectiveness ($r=0.463$, $p<0.01$), and principal entrepreneurial leadership and teacher efficacy ($r=0.479$, $p<0.01$).

4.2 Measurement model and structural model results

After the confirmatory factor analysis process, organizational effectiveness consists of seven dimensions with 26 items (Appendices 3–5), and the model fit indices are decent (Chi-Square = 906.404, CMIN/DF = 3.094, RMSEA = 0.074, CFI = 0.893, TLI = 0.882). Next, principal entrepreneurial leadership was structured with five dimensions with 48 items. The model fit indices are decent (Chi-Square = 2540.080, CMIN/DF = 2.354, RMSEA = 0.060, CFI = 0.881, TLI = 0.876). Teacher efficacy consists of three dimensions with 16 items and the model fit indices are satisfactory (Chi-Square = 327.737, CMIN/DF = 3.151, RMSEA = 0.075, CFI = 0.920, TLI = 0.908). Based on the total measurement model, the model fit indices are reasonable (Chi-Square = 7057.278, CMIN/DF = 1.852, RMSEA = 0.047, CFI = 0.855, TLI = 0.847). The reliability and discriminant validity of the total measurement model are shown in Appendix 6. The structural model with 15 latent dimensions

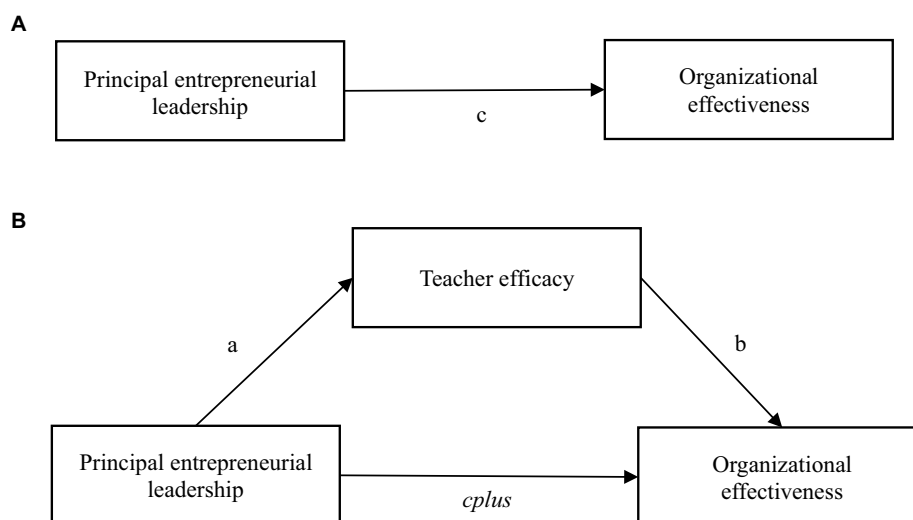


FIGURE 1
Direct model and mediation model.

TABLE 1 Descriptive statistics and inter-correlation matrix.

	Mean	SD	Entrepreneurial leadership	Teacher efficacy	Organizational effectiveness
Entrepreneurial leadership	3.672	0.850	1		
Teacher efficacy	3.495	0.594	0.479**	1	
Organizational effectiveness	3.674	0.876	0.635**	0.463**	1

**At the 0.01 level (double tailed), the correlation is significant.

TABLE 2 Path relationship verification of the structural model.

Path relationship			Estimate	S.E.	C.R.	p-value	Label
<i>Model without mediators</i>							
Entrepreneurial leadership	--->	Organizational effectiveness	0.675	0.038	10.072	***	c
<i>Model with mediators</i>							
Entrepreneurial leadership	--->	Teacher efficacy	0.509	0.046	9.197	***	a
Entrepreneurial leadership	--->	Organizational effectiveness	0.582	0.056	10.440	***	cplus
Teacher efficacy	--->	Organizational effectiveness	0.183	0.063	3.544	***	b

indicates that the model fit indices are at an acceptable level as well (Chi-Square = 330.922, CMIN/DF = 3.804, RMSEA = 0.086, CFI = 0.947, TLI = 0.936). Table 2 presents the path correlation verification. And Figure 2 shows the structural model result.

The results are based on the positively significant Pearson correlation and path relationship analysis among principal entrepreneurial leadership, teacher efficacy and organizational effectiveness. The first hypothesis is supported where principal entrepreneurial leadership has a significant positive relationship with organizational effectiveness in English training institutions ($\beta = 0.582$, $p < 0.001$). For the second hypothesis, it is also supported where the finding shows that teacher efficacy has a significant positive relationship with organizational effectiveness in English training institutions ($\beta = 0.183$, $p < 0.001$). The third hypothesis is supported where principal entrepreneurial leadership has a significant positive relationship with teacher efficacy in English training institutions ($\beta = 0.509$, $p < 0.001$).

4.3 Mediation analysis

To analyze the teacher efficacy mediation effect on the relationship between principal entrepreneurial leadership and organizational effectiveness in English training institutions, the bootstrap method ($B = 5,000$) was used using AMOS, and the results are shown in Table 3.

In Table 3, both direct effects and indirect effects are significant ($p < 0.05$), and the mediation model is a partial mediating effect. The indirect effects (IE) estimate value is 0.094, with a 95% confidence value (0.037, 0.155) that does not include 0, thus the indirect effect is valid. The direct effects (DE) estimate value is 0.583, with a 95% confidence value (0.468, 0.698) that does not include 0, the direct value is also valid. The effect proportion of indirect effect is 13.9% and the effect proportion of direct effect is 86.1%. The direct effect of principal entrepreneurial leadership on organizational effectiveness is

significant without the teacher efficacy mediator ($\beta = 0.675$, $SE = 0.038$, $p < 0.001$). Hence, for the fifth hypothesis, it is evident that teacher efficacy plays a partial mediates the relationship between principal entrepreneurial leadership and organizational effectiveness in English training institutions. Figure 3 shows the direct model and mediation model results.

5 Discussion

Organizational effectiveness and principal entrepreneurial leadership are increasingly receiving attention from researchers. However, only a few researchers pay attention to the organizational effectiveness of training institutions, and even fewer studies focus on the joint impact of principal entrepreneurial leadership and teacher efficacy on the organizational effectiveness of training institutions. Figure 4 depicts the finding results.

This study finds that there is a positive relationship between principal entrepreneurial leadership and organizational effectiveness. Principals full play to the explore ability, miner ability, integrator ability, and accelerator ability to enhance organizational effectiveness from a student development perspective, teachers' satisfaction perspective, and organization management perspective. This result also resonates with the previous argument, which confirmed entrepreneurial leadership impacts on school performance and school effectiveness (Dahiru et al., 2017; Lope Pihie et al., 2018; Kasim and Zakaria, 2019; Ghazali et al., 2020), as well as organizational performance and effectiveness (Ruvio et al., 2010; Fontana and Musa, 2017; Sari and Ahmad, 2022). Other than that principals in organizations with a high level of entrepreneurial leadership behavior are more willing to enhance the organizational adaptability of the uncertain environment, discover and explore strategic value creation, and create new operating models to lead to an increase in the level of organizational effectiveness. Entrepreneurial principals typically possess a strong understanding of risks and adaptability. Regular risk

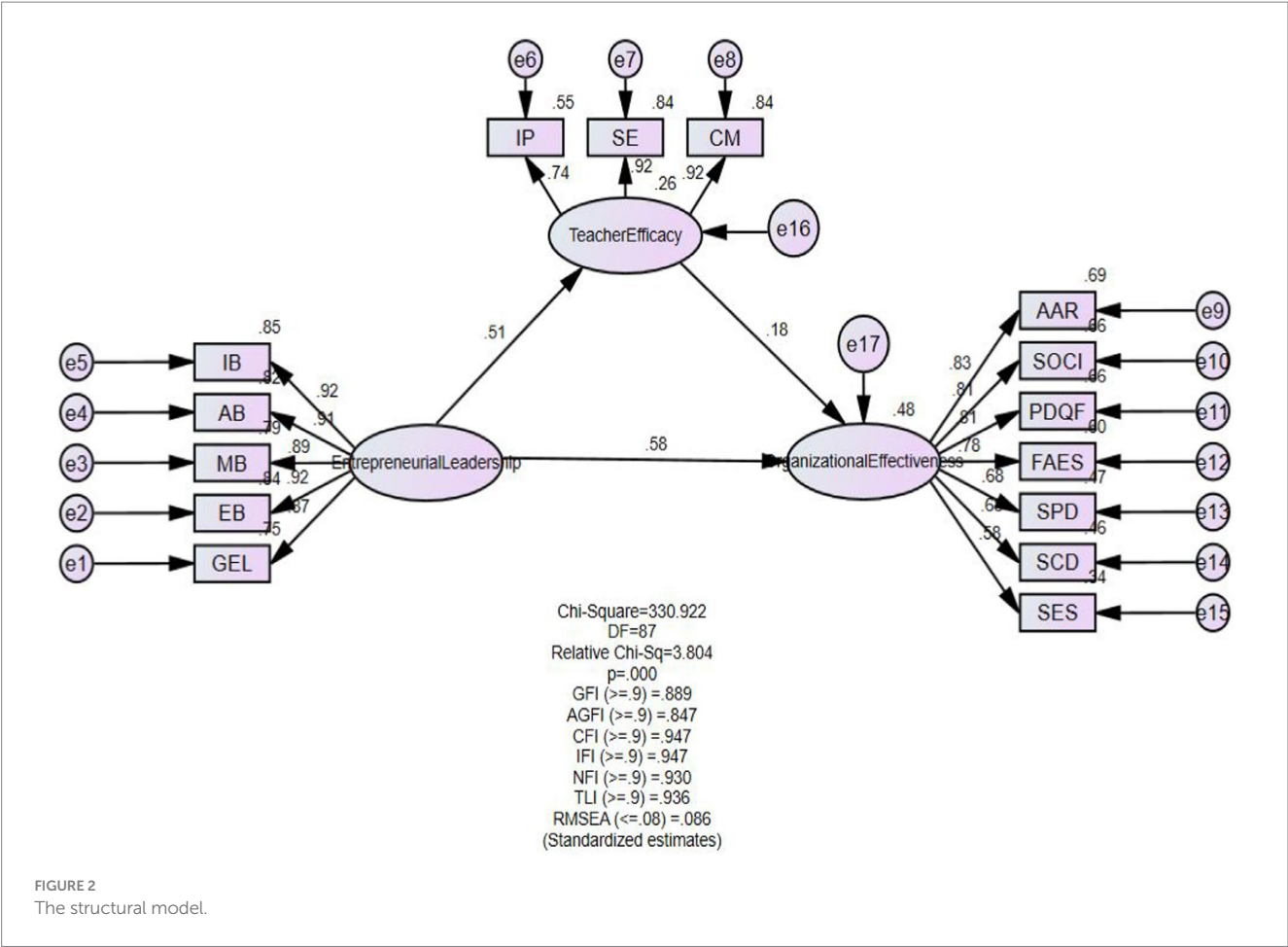


TABLE 3 Bootstrap mediation effect result.

Parameter	Estimate	Lower	Upper	p-value	Effect proportion
IE	0.094	0.037	0.155	0.002	13.9%
DE	0.583	0.468	0.698	0.001	86.1%
TE	0.677	0.585	0.783	0.001	

assessments will be conducted to immediately identify and respond to potential risks and difficulties, ensuring the steady operation of training institutions. Therefore, specific initiatives and practices jointly promote the improvement of organizational effectiveness of training institutions. Through the entrepreneurial leadership of principals, training institutions can better respond to changes and challenges in the external environment, improve education quality and service levels, and achieve the long-term goals of the organization.

Teacher efficacy is positively related to organizational effectiveness. Note that teachers with a high level of teacher efficacy tend to provide high-quality teaching services and are responsible for promoting student engagement in studying and learning activities. Past studies have pointed to the positive relationships between teacher efficacy and organizational effectiveness within different types of schools (Lu, 2010; Gowrie and Ramdass, 2014; Minghui et al., 2018; Ninković and Knezevic-Florici, 2018). This current study is aligned with these past studies. Teacher efficacy directly affects the instructional practice and student learning outcomes. It positively influences the cohesion of the

teacher team, teacher career development and the virtuous cycle of organizational development in the training institution, ultimately enhancing the organizational effectiveness of the entire training institution and contributing to the ongoing advancement of the organizations. This study denotes that there is a significant relationship between teacher efficacy and organizational effectiveness in the profit-making educational organizations of English training institutions in China. On the other hand, it also stresses the significance of high teacher efficacy for teachers, students, as well as organizations in strengthening organizational effectiveness and student development.

This study also verifies that principal entrepreneurial leadership has a positive effect on teacher efficacy. The former researchers, Hipp and Bredesqn (1995), Ross and Gray (2006), Al-Mahdy et al. (2018), and Cansoy et al. (2022) studied different kinds of leadership causing an effect on teachers' sense of efficacy. Some other researchers like Brauckmann-Sajkiewicz and Pashiardis (2022) and Wibowo and Saptono (2018) studied the influence of entrepreneurial leadership on teachers' creativity, innovation, and practice. Neither of these

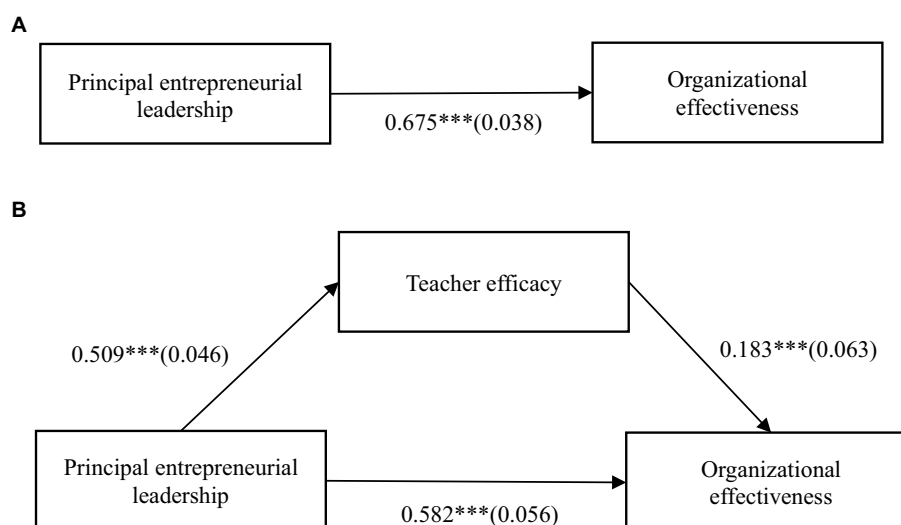


FIGURE 3
Analytical direct model and mediation model.

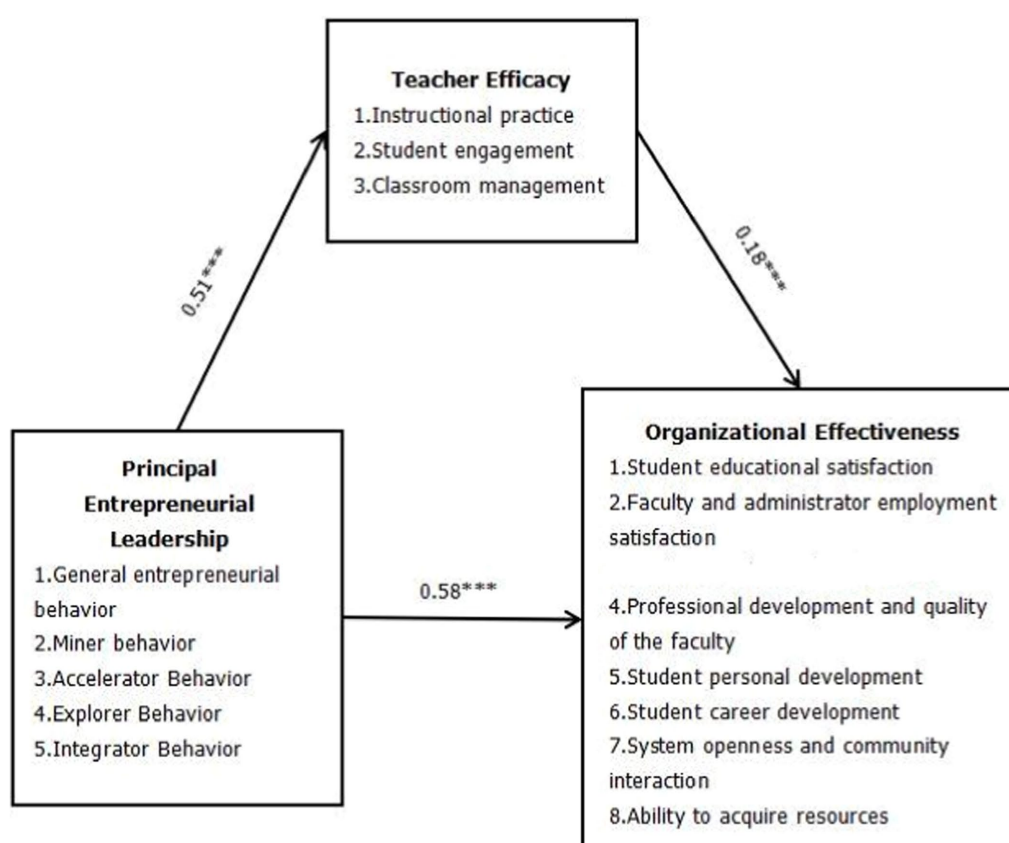


FIGURE 4
Finding result.

researchers directly studies the relationship between principal entrepreneurial leadership and teacher efficacy. This research finding shows that principal explorer behavior stimulates teachers to be more

creative and productive in new educational ideas and instructional methods for teaching activities. Principal miner's behavior analyzes organizational resources and management operations to enhance

teachers' performance and improvement. Principal accelerator behavior motivates teachers to learn new skills and strategies about employing facility resources, teaching modes, and classroom management for upgrading school as well as student performance. All of these present the important role of principal entrepreneurial leadership in school organization and lay the foundation for teachers' professional development and value creation.

The important finding is that teacher efficacy has a mediating effect on principal entrepreneurial leadership and organizational effectiveness. Teachers, as a crucial part of the entire school operation process, manage and arrange daily teaching activities based on the school's development goals and teaching policies. Principals practicing high-level entrepreneurial leadership will facilitate a high level of teachers' working performance and teacher efficacy, influencing organizational performance and effectiveness. The three constructs form a circulatory system in the open social system, influencing and interacting with each other creating personal value, organizational value, and social value. The research of [Dahiru et al. \(2017\)](#), [Khan \(2021\)](#), [Liu and Hallinger \(2018\)](#), and [Yasin \(2017\)](#) all side verified the relationships between the three relevant variables. Other than that this study resonates with previous research and reemphasizes that English training institutions as profit-making education organizations, need more ambitious and innovative principals. This element is the key to leading the organization to discover new market opportunities, strengthen resource integration capabilities, and improve competitive strength and risk resistance capabilities for organizations what's more, English training institutions is profit-making education organizations. This educational institution is essential for providing knowledge services in contemporary society and has been gaining popularity among individuals throughout time. In this training institutions, it need more ambitious and innovative principals to lead the organization to discover new market opportunities, strengthen resource integration capabilities, and improve competitive strength and risk resistance capabilities for organizational sustainability when comparing with the traditional schools.

Therefore, in the development process of the entire educational organization, more attention should be paid to the development and connection of principal entrepreneurial leadership, and teacher efficacy to promote a well-developed organizational operating system.

6 Limitations and future research directions

Referring to the data collection process and the research findings, the study has several limitations. Firstly, this study measures the level and the relationship of organizational effectiveness, principal entrepreneurial leadership, and teacher efficacy in English training institutions in the Henan province of China. China has a population of 1.4 billion and 34 provincial levels covering 9.6 million square kilometers of territorial area. Yet, the sampled teachers are all from the same province in China. Differences in policies, customs, and economic development will lead to different understandings of the same issue. Hence, the general applicability of research results needs to be viewed rigorously. Secondly, all questions in the questionnaires are based on teachers self-reporting data. Principal's personal experience in applying entrepreneurial leadership in organizations

and how the principals evaluate teachers' efficacy are needed to adopt a qualitative research technique for further exploration. Thirdly, this study researched the relationship between principal entrepreneurial leadership and organizational effectiveness via teacher efficacy mediating effect. It is suggested that other variables could be regarded as mediators in the future investigation.

7 Conclusion

The purpose of this study is to reveal the extent to which organizational effectiveness is influenced by principal entrepreneurial leadership and teacher efficacy in such profit-making institutions. This study's findings denote several important matters. First, it measured a more scientific and comprehensive school organizational development model in training schools. Principal entrepreneurial leadership and teacher efficacy have large direct impacts on organizational effectiveness, which emphasizes the function and significant role of principals as well as teachers in training organizations. This study also recommends verifying the adaptation of the three models' application in different educational organizations.

Second, the study adds new evidence for the teacher efficacy model applied in non-traditional schools in the Chinese context and proves the reliability of the teacher efficacy instruments. In addition, entrepreneurial leadership is a theory that has not been developed for a long time. This research validated the model and related entrepreneurial leadership linking to teacher efficacy and organizational effectiveness, proving entrepreneurial leadership's cutting-edge and scientific nature compared with other leadership theories.

However, the finding results also hint at an existing issue in training institutions in China. The principal focuses more on the management and sustainable development of the organization, which improves the organization's competitive advantage and explores market opportunities, compared to students studying results and performance. This study stressed the primary position of academic performance in organizational development, revealing the current shortcomings of English training institutions in their development and operation in China. Nevertheless, overly pursuing economic benefits while neglecting students' needs and academic performance is not conducive to the long-term development of these training schools.

To conclude, the study establishes a dynamic mechanism among principals, teachers, and organizations. Referring to the research findings, training organizations should enhance the application of material and human resources. They should also promote, and improve the connection between principals and teachers, making it easier for teachers to follow the principals' guidance. Meanwhile, principals can also receive timely feedback from teachers for further adjustments in the future. In addition, training organizations should prioritize improving and progressing students' academic performance, job satisfaction and recognition of teachers. This is crucial to provide more opportunities for teachers' career development and skill training to boost the social responsibility of training organizations and actively participate in community activities. Consequently, the government's education department should establish a regulatory mechanism, and establish strict

educational conditions, and review rules for training organizations, alongside recruitment requirements and qualification reviews for teachers in training institutions. They also should supervise and control the service quality and operating performance of training organizations from a macro level. These aspects are equally important to establish a more effective English training and learning environment for the young generation in China.

Data availability statement

The original contributions presented in the study are included in the article/[Supplementary material](#), further inquiries can be directed to the corresponding author.

Ethics statement

Ethical review and approval was not required for the study on human participants in accordance with the local legislation and institutional requirements. Written informed consent from the participants was not required to participate in this study in accordance with the national legislation and the institutional requirements.

Author contributions

LJ: Writing – original draft, Writing – review & editing. NA: Project administration, Supervision, Validation, Visualization, Writing – review & editing. SK: Supervision, Validation, Visualization, Writing – review & editing.

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Conflict of interest

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

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Supplementary material

The Supplementary material for this article can be found online at: <https://www.frontiersin.org/articles/10.3389/feduc.2024.1414640/full#supplementary-material>

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The role of transformational leadership in enhancing school culture and teaching performance in Yemeni public schools

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This study examined the mediating effect of school culture on the relationship between transformational leadership and teaching performance in Yemeni public schools. A stratified random sample of 375 teachers from schools in Sana'a, Yemen, was selected to participate. Data were collected through questionnaires and analyzed using structural equation modeling with SmartPLS 3. The results showed that transformational leadership and a positive school culture significantly predicted better teaching performance. Furthermore, school culture mediated the positive relationship between transformational leadership and teaching performance. These findings provide valuable insights for school leaders on the critical role of school culture in achieving teaching excellence. The results also shed light on mechanisms to improve school culture and educational leadership to implement policies for better student outcomes. Thus, this study addressed a gap in research on the connections between leadership styles, teaching performance, and school culture in the understudied context of Yemen's education system.

KEYWORDS

transformational leadership, school culture, teaching performance, Yemen, education

1 Introduction

Transformational leadership has emerged as a critical factor in driving positive organizational change and performance across various sectors, including education (Alzoraiki et al., 2023). Transformational leaders are visionary change agents who inspire followers, foster a shared vision, and empower others to transcend self-interests for the organization's greater good (Kartika, 2024). Transformational leadership has been associated with improved school culture, teacher motivation and commitment, and better student outcomes. However, despite the growing body of research on transformational leadership in education, many studies remain to examine how school leaders enact this leadership approach in developing countries, particularly those facing significant socio-political challenges (Milhem et al., 2024). Yemen, a nation grappling with protracted conflict, economic instability, and a fragile education system, offers a unique context to explore the role of transformational leadership in shaping school culture and sustainable teaching practices (Alkadash et al., 2023).

According to [Sweeting and Haupt \(2024\)](#), work culture is crucial, and new teachers should be introduced to it consciously and deliberately by the present staff. Cultural rules and traditions are significant to any organization, affecting the staff and the whole organization. School culture is determined by all organization members' shared beliefs and values.

The staff's shared beliefs, values, morals, symbols, and behavior all underlie their decision-making processes. Thus, this is supported by [Roy Ghatak and Garza-Reyes \(2024\)](#) affirmation that, in all instances, cultural dominance and interdependence are crucial qualities of excellent firms or organizations. Similarly, the Yemeni school culture includes all the attitudes, anticipated habits, and beliefs that influence the school's work. The school culture is also considered to affect the improvement of standards, so school leaders need to develop the culture to raise these standards.

This study aims to bridge the gap by exploring how transformational leaders in Yemeni public schools develop a positive school culture that enhances sustainable teaching. This research reveals transformational leaders' strategies, behaviors, and practices to motivate and support their staff, promote a shared vision, and establish a conducive environment for effective teaching and learning. Therefore, this study looks into the mechanism of transformational leadership that affects achievement, a topic that has attracted little attention from researchers. Many models have attempted to demonstrate and support the direct relationship between school leaders and their schools' achievements, with recent works on the topic beginning to shift attention to the mediating-effects models, proposing that leaders affect school outcomes ([Hammad et al., 2024](#)). Therefore, the present study examines the indirect effect of school culture as a mediating variable in the relationship between transformational leadership and sustainable teaching in Yemeni schools in Sana'a city.

1.1 Objectives of the study

This study investigates the direct effects of transformational leadership on teachers' performance via the mediating role of school culture. The specific objectives are:

- To examine the impact of transformational leadership on school culture.
- To examine the effect of school culture on teaching performance.
- To examine the impact of transformational leadership on teaching performance.
- To examine the mediating effect of school culture on the relationship between transformational leadership and teaching performance.

2 Literature review

Education structure in Yemen has been defined to have three levels: primary education, which includes grades 1 to 9; secondary education, including grades 10 to 12; and higher education, which

consists of universities and colleges. However, the ongoing conflict has heavily distorted the system, and many schools have either been closed or remain in scanty facilities and classrooms ([UNICEF, 2022](#)). Additionally, Yemen's educational sector suffers a few other challenges, such as a lack of competence in the teaching workforce, low resources, and displacement of people. Investment in rebuilding the school system would be colossal once the violence ends.

The ongoing crisis has presented many obstacles and disturbances to the school sector, and the ordeal has escalated the education situation to a whole new level. Two million and more children have been displaced from schools by the war, and many of the schools have been destroyed, damaged, or used to shelter the Internally Displaced Persons, 2023 UNICEF report. The movement of families, on the other hand, has dramatically affected access to education, especially in rural settings ([OCHA, 2022](#)). The prolonged fighting in Yemen raises very grave concerns about human capital and development potential in the nation's future. In such a challenging environment, strong leadership that inspires and motivates educators is essential in overcoming setbacks and rebuilding the education system.

2.1 Transformational leadership

Transformational leadership promotes the importance of task results to the followers and triggers their supreme needs so that the followers put the organization's interests over their own ([Yao et al., 2024](#)). Consequently, in the context of schools, the principals play a crucial role in their schools' development as they assess performance, raise standards, pinpoint weaknesses for ongoing improvement, and promote knowledge sharing and ongoing professional and career development among the staff ([Fraihat et al., 2024](#)).

Burns (1978) established transformational leadership theory, further refined by Bass (1985), emphasizing the significance of leaders inspiring and motivating followers to achieve common goals and organizational change. While the theory has acquired considerable acceptance and is connected with favorable outcomes, it has also been criticized. One prominent criticism is the possibility of ethical and moral failures, as charismatic leaders may use their influence for personal benefit or to push unwanted agendas. Critics claim that emphasizing idealized influence and inspirational motivation may lead to power abuse and manipulation of followers ([Chunhui et al., 2023](#)). Furthermore, the theory has been challenged for failing to consider social and cultural aspects and potentially overlooking the value of follower autonomy and critical thinking ([Kamilah et al., 2023](#)). Despite these criticisms, transformational leadership remains a powerful paradigm, but further research and critical investigation are required to address its possible limitations and ethical implications.

In the education sector, leaders of educational institutions have to participate in an extensive educational system to contribute to and reap benefits from it. In other words, leaders at all levels must provide input to change the academic environment ([Zen et al., 2024](#)). In this regard, transformational leadership assists in school and community development through a culture that promotes a moral commitment to students' success, ongoing performance, and innovative capacity to develop the school community. Such leadership reinforces the development of educational practices while highlighting the students'

education and learning (Ansari and Asad, 2024). One of the missions behind transformational leadership is to inspire and encourage the followers and concentrate on developing a vision and shared commitment to the community by bringing about positive changes to its culture (Pineda, 2024).

However, studies dedicated to applying transformational leadership in the Yemeni public school sector are scarce. Although such leadership is lacking in the educational entities of developing countries, this is especially the case in Yemen due to its centralized educational system, which still follows the traditional methods of academic administration (Ateeq et al., 2024; Scholl, 2024). In this regard, (Ndarwa and Mulinge, 2023) extended Burn's theory of transformational leadership behaviors into four categories: "idealized influence, intellectual stimulation, individualized consideration, and inspirational motivation." These categories are detailed as follows:

Idealized influence—according to Ngaithe et al. (2016), idealized influence is the ability of the transformational leader to explain the vision to the followers clearly, stimulate their direction, and function toward achieving it. Thus, ideal influence enhances employee performance by disseminating and relaying collective goals and values, illustrating confidence and determination and leading as role models for the subordinates (Olajiga et al., 2024).

Intellectual stimulation refers to the transformational leader's inclination to promote the followers' problem-solving strategies to trigger and support their innovation and creativity (Hu et al., 2013). Intellectual stimulation is an element of organizational learning and change as it involves appealing to the followers to achieve and develop in attractive ways (Jung et al., 2003). Additionally, intellectual motivation plays a significant role in environmental development that facilitates workplace performance of duties. In this case, a challenging situation assists the employee in being creative and presenting novel ideas for resolution and development, as Afsar and Umrani (2020) mentioned.

Individualized consideration is the leader's procedure to monitor the followers as they achieve a desired potential level. The leader coaches, advises and offers work opportunities to followers that encourage their growth and development (Wanza, 2024). Also, individual consideration refers to the leader's support for employees and consideration of the subordinates' needs toward work-task achievements. Based on such needs, the leader guides and advises toward task completion (Zhang et al., 2024).

Inspirational motivation—transformational leaders promote behavioral engagement, highlight expectations, and urge commitment toward organizational goals. Leaders focus on the community's vision regardless of obstacles (Pineda, 2024). As stated clearly, inspirational motivation refers to the leaders' clarifying and relaying visions to inspire and motivate their followers to achieve the established goals (Judson et al., 2024).

2.2 School culture (mediating variable)

School culture has been defined separately by numerous authors, including Min (Liu et al., 2021; Min, 2023), who claim no universal definition. However, several generally accepted definitions are listed as follows:

Tihuriyanti et al. (2024) described school culture as the ethics and social environment in schools, consisting of administrative and organizational structures and how they interact to enhance the

teacher's professional learning. While Ismail et al. (2022) defined school culture as comprising the shared faiths and values that drive a community. In addition Schipper et al. (2020) referred to school culture as the lens through which the world views the participants.

These definitions provide a familiar premise of elements conceptualizing school culture; they are characteristically unclear as the definitions use non-specific terms. Nevertheless, in the Yemeni context, there is almost a consensus as to the meaning of organizational culture (including school culture) as representing a standard system of values, beliefs, and attitudes among organizational individuals, influencing their perceptions and judgments, which is transmitted through communication and tradition from one generation to another (Mullins and Cronan, 2021; Rashid et al., 2021).

Similarly Hayati and Susatya (2020) define school culture as the deep patterns of values, beliefs, and traditions that have developed throughout the school's history. Lambert et al. (2024) described culture as the standard assumptions of a group or organization that have been learned throughout its existence via shared experiences, and Tan (2024) developed this to indicate that school culture is developed over time, with teachers, leaders, parents, and students cooperating and developing it; as a result, culture affects the development and professional growth of the staff. Thus, school culture and an educational society are essential for stakeholders' well-being and professional development.

In addition to the above definitions Yli-Panula et al. (2022) described school culture as an encompassing concept that refers to the values, norms, behaviors, climate, and attitude of the school stakeholders, including the principals, teachers, and students, when it comes to learning and teaching. This definition was extended by Gore et al. (2022) to include assumptions and relationships with the school community. Furthermore, Schipper et al. (2020) described school culture as a unique element influencing the school's behavior and interaction. Concerning this, schools with a positive culture are characterized by a pleasant classroom climate, dedicated teachers, active student participation in learning and teaching activities, discipline and order, good student-staff relationships, effective management, and teamwork.

Notably, the school culture permeates and affects the entire school's attitudes. It clarifies people's behavior and differentiates one school from the next through its specific form and rules of behavior that direct the school's functions (Ingram, 2022). A positive or negative culture affects the approach to the teaching activities of the principals, teachers, and learning among students.

Thus, It is essential to remember that schools have different cultures, each preserved to predict and determine their learning activities. A positive culture characterizes the school through its surroundings, where students and teachers are motivated to advance the education process, and learning is influenced by promoting students' high academic achievement. In other words, the student's academic performance reflects whether the school culture is positive or negative.

In this type of study, researchers dedicated only to exploring the direct influence of school leadership on students' achievement tend to report mixed or incomplete results, owing to their oversight of the mediating/moderating effects of other factors. According to the evidence, the influence of leadership on students' achievement depends on the school's objectives, structure, social networks, people, culture, and other factors, as reported by Asghar et al. (2023).

Generally speaking, the culture of any organization (including schools) stresses the developmental values, decisions, and practices of its members, developed over time during the tenure of a principal under different environments, and these have impacted the school's operations. The literature still lacks detailed results on how managers respond to the environmental context of schools and how the processes and visions are achieved. The different dimensions of school culture are detailed in the following sub-sections.

2.2.1 Social justice

This dimension emphasizes leadership practices in guiding the school's functions, determining the participation of different stakeholders in the decision-making process, and clarifying and promoting the school's vision and goals. It is also concerned with facilitating the communication patterns and relationships among the school community members and their relationships with the external surroundings. In sum, it is the policy and guidance for the school's activities (Owan, 2020).

The school's leadership promotes social justice by engaging in leadership aspects, developing the mission and vision statements, formulating objectives and action plans, and promoting unanimity and commitment toward the school's goals, policies, and responsibilities (Zabaniotou, 2020). In other words, according to Huber and Helm (2020) stress is on the assessment and accountability of developing and maintaining the school's policies and protocols. Groves and George (2022) affirmed that leaders endeavor to restructure personnel allocation and evaluate students' progress by disaggregating and analyzing data to produce an educational environment with access and supporting equality for all students. They realize the importance of valuing students' culture, language, ethnicity, family income, ability, and gender as assets in supporting students' success in school. Notwithstanding the various associations with social justice in teaching, there is agreement among teachers about the purpose, which is to eradicate inequality in education between the poor, middle and rich economic classes, the majority and ethnic minorities, the privileged and the vulnerable, as well as the elimination of disciplinary forms of accountability. Therefore, in several low-income countries, including Yemen, the pursuit of equality and social justice underlies calls for change across the country for equality and equity among students (male/female) and staff.

2.2.2 Human relationships

The school's human relationship dimension is crucial for its successful functioning and understanding of the increasing interaction and cooperation toward achieving goals. Such human relations also offer psychological comfort and satisfaction for staff and students, increasing positive outcomes and enhancing development (Ateeq et al., 2024). However, in the current times, the pandemic is affecting the teaching and learning processes, and this has resulted in conditions that go against the traditional strategies used in traditional teaching and learning, the feedback provided to both teacher and student, human relation between teacher and parent, and the educational community at large (Qaid et al., 2024).

Therefore, teachers can make significant school changes through 'human relations' procedures. The principal factor is implementing a planned program promoting better interpersonal relations. To do this, it may be required to reshape the attitudes of school community

members. Consequently, to improve human relations in the school, it should encourage collaborative interaction between student groups, maintain a good relationship with the community, maintain a good image of relations with the school community, and stay aware of the personal problems students face (Burden, 2020). As a result, schools must establish and apply core values and positive attitudes that will impact students' personal growth and community awareness. However, this will be difficult to achieve without deliberate actions and communications at the institutional level to establish brand image and reputation.

2.2.3 Innovation and renewal

Educational innovation is a set of options requiring reforming the status quo. Educational change involves inventing new alternatives to the present system or some elements to enhance efficiency and effectiveness in problem-solving approaches, meeting the community's needs, and contributing to its progress. In the case of Yemeni schools, the aim is primarily to enhance education quality and development (Metni, 2022).

In relation to this, school principals positively affect the success of their schools and, in effect, their students' achievement (Jambo and Hongde, 2020). Nevertheless, a significant portion of the influence comes indirectly from providing alternative student outcomes. Researchers, including Atasoy (2020) and Kalkan et al. (2020) found a significant direct impact of the principal's leadership on the school culture.

2.3 Teaching performance

Much literature concerns the relationship between school leadership and its impact on student's educational performance (Shen et al., 2020; Ateeq, 2023). Some studies have indicated the need to clarify the factors contributing to effective school performance based on the premise that effective teaching involves several visible and invisible variables. Essentially, effective teaching performance is a means to an end (from input to output), characterized by a clean atmosphere and a learning climate that has good instructional strategies, coordinated instructional programs, well-managed supervision and support, and directed toward achieving educational development and innovation by involving parents in the mission and vision of the school (Joseph and Eze, 2021). Thus, the student's academic performance reflects the teaching output variable and is considered to be related to the school's leadership. Therefore, school leaders are responsible for assessing the quality of teaching preparation by adopting a new teacher assessment policy.

According to Akpa et al. (2021), effectiveness and efficiency are significant terms for assessing and measuring organizational performance; effectiveness refers to the level with which public policy is aligned with organizational objectives. Therefore, school principals should create favorable conditions for teaching and learning; they must lead the teaching and learning process and link it to organizational goals and outcomes (Jarl et al., 2021).

Researchers may differ in their views of the background quality, owing to their pedagogical institution studies and levels of analysis, as well as the fit with the learning process (Yoon and Uliassi, 2022) The present study focuses on teaching quality outcomes. Teaching performance is conceptualized as having two dimensions: effectiveness

and efficiency. [Figure 1](#) displays the theoretical model, showing the structural model used to test the mediating effect of school culture (SC) on the relationship between transformational leadership (TFL) and teaching performance.

Consequently, based on the framework, the hypotheses proposed for the study are as follows:

H1: Transformational leadership has a significant positive effect on school culture.

H2: School culture has a significant positive effect on teaching performance.

H3: Transformational leadership has a significant positive effect on teaching performance.

H4: School culture mediates the relationship between transformational leadership and teaching performance.

3 Methods

3.1 Research design

A research design is a framework developed to determine the answers to the research questions and to ensure that appropriate data is collected for testing the theory ([Ateeq et al., 2024](#)). It consists of the unit of analysis, research questions, data collection instruments, data analysis, results presentation, and interpretation. The plan has to be linked to the model or the research stance.

For this study, quantitative methods were adopted due to the sample size of teachers in Sana'a city in Yemen. The sample size of quantitative research is more significant than qualitative research and is related to the traditional, positivist, or empirical paradigm ([Al-Fahim, 2024](#)). The study employed a structured questionnaire survey to collect data as it is appropriate for use

with “Partial least square structural equation modeling” (PLS-SEM) for the analysis.

3.2 Population and sampling

The study population is public school teachers in Sana'a city; from the list of teachers, 450 teachers were randomly chosen by a stratified sampling method.

Krejcie and Morgan's (1970) table for sample size determination was used to reduce the number of teachers from the total number of 13,198 nationwide. A sample size of 375 respondents was required to represent the population cross-sectionally. However, to gather enough data for a more precise result, the researcher selected 450 participants. The following sections clarify this process using Krejcie and Morgan's (1970) method and the power of statistical analysis ([Milhem et al., 2024](#)).

3.3 Data collection

Primary and secondary data collection approaches were employed. Secondary data was drawn from articles and information from different publications concerning the impact of transformational leadership on education quality and the relevant topics ([Ateeq et al., 2024](#); [Milhem et al., 2024](#)).

There were four parts to the original questionnaire: Demographics, Transformational Leadership (TL), School Culture (SC), and Teaching Performance (TP). The demographic section described participants' personal information (i.e., gender, age, educational background). The questions in the other three parts (TL, SC, and TP) were structured on a Likert-like scale of 5 points (1 as strongly disagree to 5 as strongly agree). The number of questions loaded in the TL, SC, and TP parts was 24, 28 and 18 (total $n = 70$), respectively. In TL, questions were designed to examine school transformational leaders' understandings of education. In SC, the questions are structured to reveal school culture in the Yemeni context. Finally, in TP, the questions indicate teachers' perceptions of teaching quality.

After establishing the content validity and internal consistency of the questionnaire through the outcomes of the pilot study, the

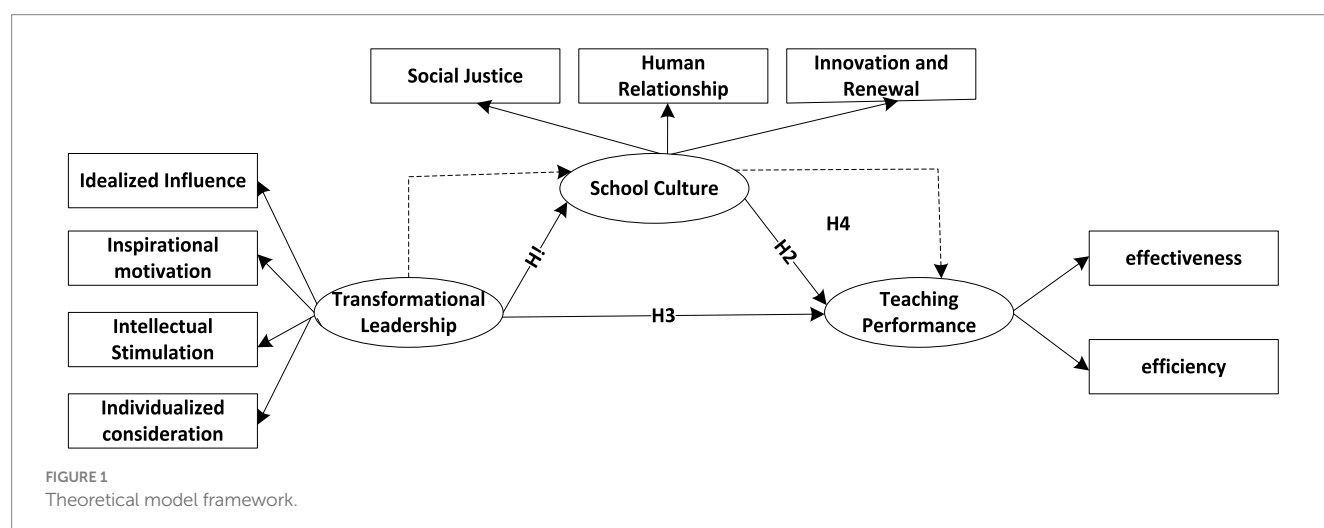


TABLE 1 Cronbach alpha and AVE.

	Cronbach's Alpha	Composite Reliability	AVE
Teach.P	0.888	0.91	0.529
EFF	0.85	0.893	0.626
EFIC	0.833	0.89	0.669
HR	0.959	0.968	0.859
IC	0.782	0.859	0.604
IIN	0.864	0.898	0.596
IM	0.856	0.903	0.699
IR	0.82	0.881	0.65
IS	0.775	0.87	0.69
SC	0.946	0.953	0.499
SJ	0.946	0.958	0.822
TFL	0.937	0.944	0.501

Teach.P, Teaching Performance; EFF, effectiveness; EFIC, efficiency; HR, Human Relationships; IC, Individualized consideration; IIN, Idealized influence; IM, Inspirational motivation; IR, Innovation and Renewal; IS, Intellectual stimulation; SC, School Culture; SJ, Social Justice; TFL, Transformational Leadership.

TABLE 2 Correlation coefficients of variables.

	Teach.P	SC	TFL
Teach. P	0.728		
SC	0.507	0.706	
TFL	0.344	0.378	0.708

** $p < 0.01$; * $p < 0.05$ (two tails).

researcher sought the necessary permission from the Education Office in Sana'a (Amanat Al-Asemah) to carry out the research. After granting permission, the researcher distributed the questionnaire to the respondents. Each survey questionnaire contained a cover letter, which highlighted the research's scope, the confidentiality of the responses, and the rights of the respondents to withdraw from the study. The process of data collection continued throughout February 2019.

Four hundred fifty questionnaires were distributed to public school teachers in Sana'a city, and 375 completed responses were collected for analysis. This sample size exceeds the recommended minimum of 375 responses for a population of 15,000, as Saleh and Mansour (Saleh and Mansour, 2024) advised to avoid inaccurate outcomes, parameter estimate errors, and high standard errors (Ali et al., 2023). The data was analyzed using SPSS version 24 for descriptive, factor, reliability, and correlation analyses. Additionally, partial least squares structural equation modeling (PLS-SEM) version 3 was employed to test the hypothesized model.

4 Results

4.1 Cronbach's alpha and AVE

The study ensured internal consistency by examining Cronbach's alpha of the items used for model evaluation, providing the values were above 0.70. The indicator reliability with outer loading less than

0.40 should permanently be removed to improve the reliability and validity of the model (Ateeq et al., 2024). Further examination of internal consistency reliability involved composite reliability, and it was noted that all constructs had acceptable composite reliability values ranging from 0.91 to 0.95. Regarding convergent validity, the constructs yielded a range of average variance extracted (AVE) values from 0.50 to 0.52, which Ateeq et al. (2022) indicated as acceptable in social science research. The results are displayed in Table 1.

4.2 Correlations of all the variables

This test establishes that every construct is distinct and does not measure similar factors in the model (Ateeq et al., 2024). The three constructs (Teach $p = 0.728$; SC = 0.706; TFL = 0.708) have a strong association with themselves compared to other constructs, satisfying the criterion of Fornell & Larcker and consequently indicating a positive discriminant validity. The results are presented in Table 2.

4.3 Test of the mediating effect

Several methods have been proposed to test the mediating effect, including those of Zhang and Li (2023) and Saleh and Mansour (2024) approach illustrated a full mediating testing model with chronological steps to test the direct and indirect effects among dependent, independent, and mediating variables. Therefore, this study followed their three conditions for testing the mediation effect: (1) the independent variable should be related to the mediating variable; (2) the mediating variable should be related to the dependent variable; and lastly, (3) full mediation is deemed to be present when, after its introduction, the independent variable is no longer related to the dependent one.

4.4 Testing the hypotheses

According to Table 3, there is a significant path from transformational leadership (TFL) to school culture (SC; $\beta = 0.378$; $p = 0.000$). Likewise, the path coefficient from transformational leadership (TFL) to teaching performance (Teach. P) is ($\beta = 0.177$; $p = 0.004$). There is also a significant path from school culture (SC) to teaching performance (Teach. P) with ($\beta = 0.440$; $p = 0.000$). Thus, these results support hypotheses H1, H2, and H3. There is a statistically significant indirect path from transformational leadership to teaching performance via school culture ($\beta = 0.167$; $p = 0.000$). Hence, hypothesis H4 is also supported. The results are summarized in Table 3.

Regarding the mediating effect of school culture on the relationship between transformational leadership and teaching performance, the study tested the coefficient parameter estimates; Table 4 indicates the path coefficients and the measurements of the direct and mediating effects.

The structural model used to examine the mediating effect of school culture on the transformational leadership-teaching performance relationship is depicted in Figures 2 and 3 as a result of SmartPLS analysis.

TABLE 3 Hypothesis results.

Hypothesis	Relationship	Std, Beta	Std. Error	T-Value	P Values
H1	TFL → SC	0.378	0.045	8.375	0.000
H2	SC → Teach. P	0.440	0.066	6.625	0.000
H3	TFL → Teach. P	0.177	0.062	2.883	0.004
H4	TFL → SC → Teach. P	0.167	0.032	5.125	0.000

TFL, Transformational leadership; SC, School Culture; Teach P, Teaching Performance.

TABLE 4 Mediation effect of school culture (SC).

IV = Transformational Leadership (TFL) DV = Teaching Performance(Teach.P) MV = School Culture (SC)	Standardized effect
Total Effect of IV on DV without M (path a)	0.344
Direct Effect of IV on DV with M (path a')	0.177
Indirect Effect of IV on DV through M (path bc)	0.167
Effect of IV on M (path b)	0.378
Effect of M on DV (path c)	0.440
Mediation Effect	Yes
Hypothesis Result	H4 Supported

5 Discussion

This study investigates the mediating role of school culture in the relationship between transformational leadership and teaching performance in Yemeni public schools. Therefore, this study is a response to minimize the literature gap concerning a conceptual/empirical study on the relationship between transformational leadership and teaching effectiveness with the mediating role of school culture, as highlighted by ONAMUSI (Onamusi, 2020). Studies that connect transformational leadership practices to school culture, particularly in the Yemeni context, are still lacking. According to Lopes and Oliveira (2020), there is a need to examine the relationship between school culture, teachers' job satisfaction, and the effectiveness of schools. Similarly Toropova et al. (2021) urged further studies to determine additional variables significant to leadership within a school culture through structural equation modeling (SEM). As such, the present research heeded the call and attempted to fill the gap.

Based on the model evaluation results, this study established the school culture's mediating effect on the school leaders' transformational leadership and teaching performance. In determining mediation, the procedures in confirmatory analysis using PLS-SEM examined the relationships between the constructs before testing the hypothesis. More importantly, several major conclusions can be drawn from the results of the hypothesis.

5.1 Transformational leadership has a significant positive effect on school culture

Based on the results, a significant relationship exists between transformational leadership (TFL) and school culture (SC) ($\beta=0.378$; $p=0.000$), supporting the first hypothesis. The results show that the top cultural aspects of the school are professional cooperation and self-determination. Different leadership styles (distributive, educational,

collaborative, and transformational leadership) have all been shown to be statistically significant indicators of school culture, and this is aligned with the results of the present study (La Salle-Finley et al., 2024).

5.2 School culture has a significant positive effect on teaching performance

The results show a significant relationship between school culture and teaching performance ($\beta=0.440$; $p=0.000$), supporting the second hypothesis. The findings indicated that the impact of school culture on school achievement encompasses all three school culture aspects (innovation, human relationships, and social justice). In other words, aspects of school culture facilitate the positive feeling of teachers about their jobs; in particular, positive school culture is related to higher achievement among students, enhanced teacher collaboration, and improved knowledge of teachers (Uy et al., 2024).

5.3 Transformational leadership has a significant positive effect on teaching performance

The results show a significant relationship between transformational leadership and teaching performance ($\beta=0.177$; $p=0.004$). This result is consistent with the finding reported by Ansari and Asad (2024), who stated that school leaders impact students' learning indirectly through enhanced school tasks that promote pedagogical focus for teachers, generating a school environment conducive to learning.

This finding supports the premise that the practice of principals is measurable despite its indirect effect on the achievement of students. This was also supported by Uy et al. (2024), who discussed how the headmaster promotes a positive teaching culture that indirectly affects students' academic achievements. Also Gao et al. (2024) examined the exact variable correlation. It revealed that one of the six significant findings was the instructional leadership's indirect effect on the school's academic achievement. Similarly, the Khan et al. (2023) meta-study concluded that school culture has a distinct impact on students' achievement, and Alam and Mohanty (2023) study indicated that higher scores for achievement among students in standardized tests were related to healthy learning environments and culture.

5.4 School culture mediates the relationship between transformational leadership and teaching performance

This study proposed the mediating effect of school culture on the relationship between transformational leadership and teaching

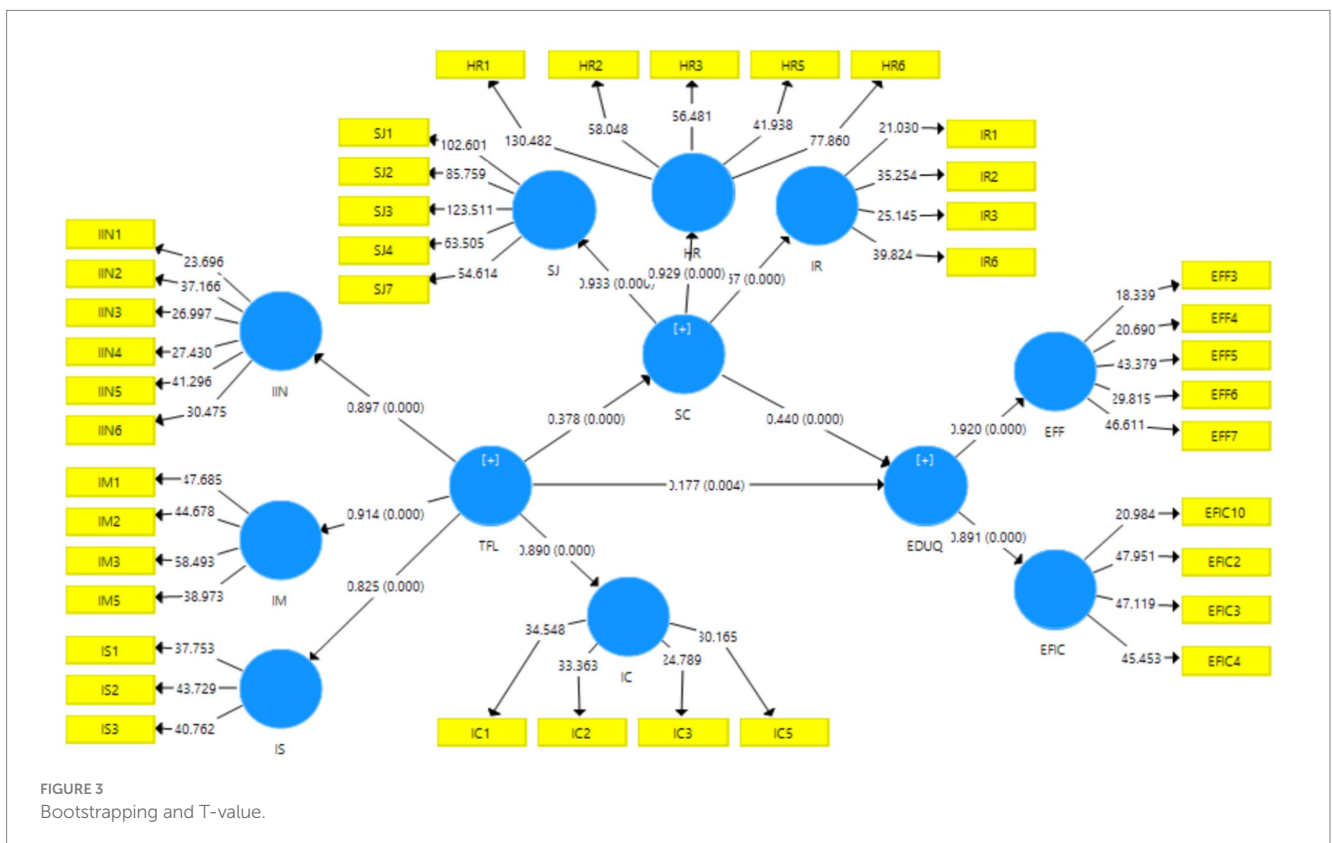
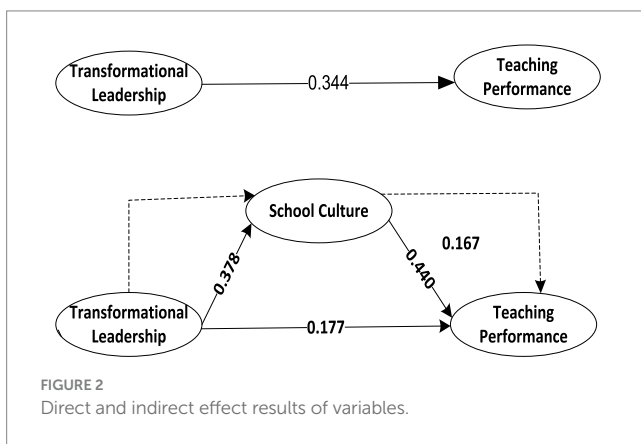
aspiring school leaders and those holding key leadership positions should develop. Thus, this will help foster and preserve the values and cultures inherent in educational institutions.

In addition to the efforts of individual school leaders, the study highlights the importance of systemic support from policymakers. Given the challenging circumstances in Yemen, the Ministry of Education should prioritize developing and implementing comprehensive leadership programs. These initiatives are essential for enhancing the understanding of school culture and strengthening the capabilities of transformational leaders. By doing so, these programs can play a pivotal role in nurturing and sustaining a positive and resilient school culture, ultimately contributing to improved educational outcomes even in times of conflict.

Furthermore, future research should investigate the long-term impact of transformational leadership on educational performance in conflict zones. Thus, this could include teacher retention, student engagement, and overall school resilience. Expanding the scope of research in this way will provide deeper insights and inform more effective strategies for educational leadership and policy in similar contexts around the world.

7 Implications

This study investigates the mediating role of school culture in the relationship between transformational leadership and teaching performance in Yemeni public schools. Moreover, This study adds to the existing body of knowledge by addressing the mediating role of school culture in the relationship between transformational leadership and the teaching performance of Yemeni public school



teachers. The results can be employed as a guide for educational policymakers to measure teaching performance and apply different strategic orientations that can increase the effectiveness of teaching performance. In addition, the present study pioneers examining the effects of transformational leaders in Yemeni public schools on teaching performance and, simultaneously, the mediating role of school culture in the above relationship in the Yemeni context (Alzoraiki et al., 2018). The study is expected to contribute to the literature on school culture and the factors that could affect teaching performance. The study also contributes by guiding the education sector on how teachers can improve their performance and, in turn, the schools improve their provision of services to the students.

The study also contributes to the literature to address the gap by focusing on the much-ignored relationship between school culture and teaching performance. The study results supported a significant direct effect of transformational leadership and school culture on teachers' performance. Thus, this shows that teachers' performance can be enhanced by focusing on the two variables and their critical roles as constructs supporting the improvement.

Aside from this, the study also contributes to practice, whereby leaders of educational institutions and policymakers are guided through a roadmap to the understanding of the influential factors when it comes to teaching performance in public schools and the key role that school culture plays in enhancing the performance of students. Policymakers are advised that enhanced teaching performance requires focusing on the top factors, such as transformational leadership, to be adopted by school administrators and promoting school culture among community members.

The current study's findings also indicated the importance of school culture in enhancing academic performance in Yemeni public schools. This can be facilitated by properly adopting transformational leadership practices and integrating school culture to ensure the optimal performance of Yemeni teachers. The current study's results promote Yemeni teachers' awareness of the transformational leader practices and activities in developing and maintaining the culture of schools in the Yemeni context and, eventually, the adequate performance of teachers as mentioned (Almana, n.d.).

8 Limitations and future studies

The current empirical study has limitations that may pave the way for future research directions. Despite this study's contribution to the literature concerning transformational leadership's relationship with school culture in the Yemeni context, there are limitations. The first is the study's focus on the transformational leadership style alone, although there are other styles, including transactional and "*laissez-faire*" leadership. Future studies are suggested to examine the effects of all three styles to determine which influences the teaching staff most.

Secondly, the sample of Yemeni public schools teachers was limited to those in Sana'a city, which has great cultural diversity and represents a large segment of the country's teachers. However, this sample does not represent the whole of Yemen. Thus, further studies can be expanded to different governorates. Finally, this study is limited to transformational leadership as an enabler of school culture. However, there are other enablers, such as individual characteristics of the school, which future studies could examine.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

Ethical review and approval was not required for the study on human participants in accordance with the local legislation and institutional requirements. Written informed consent from the patients/ participants or patients/participants' legal guardian/next of kin was not required to participate in this study in accordance with the national legislation and the institutional requirements.

Author contributions

MA: Data curation, Formal analysis, Funding acquisition, Methodology, Resources, Software, Validation, Visualization, Writing – original draft, Writing – review & editing. ARA: Project administration, Resources, Supervision, Writing – original draft. AA: Conceptualization, Project administration, Writing – original draft, Data curation, Formal analysis, Funding acquisition, Methodology, Visualization, Writing – review & editing. MM: Funding acquisition, Resources, Supervision, Writing – review & editing.

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Conflict of interest

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

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Supplementary material

The Supplementary material for this article can be found online at: <https://www.frontiersin.org/articles/10.3389/feduc.2024.1413607/full#supplementary-material>

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Examining the status of school improvement program implementation in primary schools: a case study in South Ethiopia region

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The implementation of a School Improvement Program (SIP) is a means to enhance the overall quality of education and ultimately improve students' academic outcomes. Hence, this study aimed to investigate the extent of SIP implementation with respect to its main domains in primary schools of Gamo Gofa Zone, South Ethiopia Region. Accordingly, the current study focuses on four key areas in schools, which include teaching-learning, school leadership and management, parent-community school relations, and healthy school environment. A descriptive survey research design was used with a quantitative research method. From 16 primary schools; 99 teachers, 32 principals, 44 school improvement committees and 396 students were selected using a simple random sampling technique. The research utilized close-ended questionnaires and document reviews as data-gathering instruments. Quantitative data were analyzed using mean, standard deviation, and one-way ANOVA, while qualitative data were analyzed using descriptive narration. The findings revealed that the implementation of SIP in the four main domains was moderate status. However, the domains of teaching-learning and school leadership exhibited a high level of implementation. The study also identified significant differences among districts regarding the extent of implementation in the teaching-learning and community participation domains. Moreover, the results of grade four zonal and grade eight regional examinations indicated that SIP is not yet properly implemented and needs high consideration. Therefore, raising awareness about the revised school improvement Blueprint and framework through short-term training, establishing an incentive system to encourage best practices and implementing formal monitoring and evaluation tools are suggested to boost the status of SIP implementation in the study area.

KEYWORDS

implementation, primary school, school improvement committees, school improvement program, status

1 Introduction

1.1 Background of the study

Education is widely acknowledged as a crucial factor in the development of any nation, serving as a catalyst for progress and change. Scholars like [Lockheed and Verspoor \(1991\)](#) have emphasized that education is fundamental to economic and social development, enabling individuals and

society to actively participate in the developmental process by acquiring knowledge, skills, abilities, and attitudes (MoE, 1994). Schools play a central role in achieving these educational objectives as they serve as institutions where formal teaching and learning activities take place. Educators worldwide have been striving to improve schools and enhance their effectiveness and efficiency. In the past, efforts were primarily focused on enhancing students' basic skills and implementing standardized testing programs (Carlson, 1996).

However, the rapidly evolving needs of society have compelled schools to adapt their systems to meet the changing requirements. In an increasingly competitive environment, schools are required to raise standards and improve the quality of their services (Harris, 2005). They must ensure the availability of relevant resources and revise the teaching-learning process to provide students with a standardized education. Consequently, school improvement programs have gained significant attention as a dominant approach to fostering educational change and improving student achievement and the overall quality of education (Hopkins, 2001).

One such program is the SIP, which aims to bring about positive changes in schools and ensure quality education. According to the Ethiopian Ministry of Education, the SIP is one of the six general education quality improvement packages designed to enhance school capacity, prioritize needs, develop school improvement plans, promote community participation, improve resource utilization and decision-making, and enhance the learning environment (MoE, 2007). The SIP focuses on four key domains: teaching-learning, school leadership and management, parent-community school relationships, and a healthy school environment. Each of these domains is of equal importance, and the strength of the whole program is contingent on the effectiveness of each domain (MoE, 2010). The SIP is a continuous and cyclic process that involves planning, implementation, evaluation, and reporting, all of which need to be consistently implemented at the school level (MoE, 2007).

Given the significance of the SIP in improving education quality, this study aims to assess the implementation of the SIP as part of the General Education Quality Improvement Package (GEQIP). School improvement is a distinct approach to educational change that focuses on enhancing student performance by improving teaching-learning processes and creating supportive conditions (Harris, 2005).

Previous studies by Hopkins et al. (1994) and Adelman and Taylor (2007) have highlighted the positive impact of the SIP program on education quality, emphasizing the role of best practices within the four domains of the program. Likewise, other researchers have explored the implementation, challenges, and opportunities of the SIP in different regions of Ethiopia, including Kifle and Tariku (2014), Mengistu (2017), Gezahegn and Abebe (2019), Solomon (2020), Jerusalem and Ali (2021), Dabesa and Cheramlak, (2021), and Yishak and Triegaardt (2022).

Some other studies were also conducted about perceptions and contributions of stakeholders to the SIP implementation, such as Solomon (2016), Solomon (2020), and Yishak and Triegaardt (2022). Moreover, Lemessa (2016) and Solomon (2016) investigated the status of SIP implementation, with Solomon focusing on preparation and Lemessa on actual implementation. However, the current study aims to provide a more comprehensive examination of the status of SIP implementation, focusing on its extent, implementation differences among the four domains, and the impact on students' academic results across different SIP implementation eras. This is important because prior research, including studies by Dereje (2012), Gezahegn and

Abebe (2019), Solomon (2016), Solomon (2020), and Dabesa and Cheramlak (2021), have indicated that the implementation of the SIP has faced various challenges that have limited its high-level implementation, particularly in the Gamo Gofa Zone. Therefore, this study aimed to seek this gap by examining the extent of SIP implementation with respect to its main domains in primary schools of Gamo Gofa Zone in South Ethiopia Region. Accordingly, the following research questions were formulated to address the research objectives:

- What is the extent of SIP implementation in terms of its four main domains?
- Are there significant differences in the implementation of the main SIP domains in the study area?
- Do students' academic results vary across different eras of SIP implementation?

2 Literature review

The Education and Training Policy and its implementation document reveal a shortage in access to education for citizens and low quality of education in Ethiopia. To address these problems, initiatives were taken to develop the new Education and Training Policy (MoE, 2023). Although the implementation of the policy improved education access, the quality of education at different levels was not improved (MoE, 2002). It became necessary to shift focus to quality concerns, particularly those inputs and processes that directly translate to improved student learning and help transform schools into genuine learning environments (MoE, 2007). To improve quality shortcomings, the Ministry of Education launched the General Education Quality Improvement Package (GEQIP) in 2007. This package consisted of four major programs, including the School Improvement Program (SIP), aimed at enhancing the quality of education in the country (MoE, 2007).

The SIP, adopted from Australian school excellence initiatives, comprises four domains and 12 elements (MoE, 2007). The program was designed by the Ministry of Education in Ethiopia and then disseminated to regions, zones, and schools for implementation. Trainings were provided to various educational leaders, experts, and teachers to ensure program implementation, but stakeholders reportedly lacked adequate awareness of the School Improvement Program (Lemessa, 2016). Despite remarkable achievements in access, the quality of education in Ethiopia has faced serious problems. Assessments of the Education Sector Development Plan III-V and national primary and secondary learning examinations indicated that student achievements were below average for most subjects (MoE, 2005; MoE, 2007). Factors contributing to low student outcomes included school management and organization, availability of textbooks and instructional materials, and language of instruction (MoE, 2007). To address these and other related problems, the MoE proposed the GEQIP to enhance the quality of education and student achievement (MoE, 2007).

The Ethiopian Ministry of Education (MoE) has exerted considerable effort to improve the quality of education in the country, as evidenced by the implementation of the School Improvement Program (SIP). This structured approach involves several key steps:

during the preparation phase, the school improvement unit and stakeholders collect data on the school's current state; this informs the development of 3-year and annual plans with goals, objectives, and priorities for improvement activities (MoE, 2007); the plan is then executed, with the school improvement committee overseeing the process and reporting on progress; finally, the school undergoes annual evaluations to assess improvements, identify new priorities, and receive feedback from external bodies, all with the aim of continuously enhancing the effectiveness of the education system.

The importance of school improvement as a process for enhancing the quality of students' learning and strengthening the capacity for change in schools is widely recognized. It has become the dominant approach to bringing about educational change (Hopkins, 2002). The SIP is essential for schools to provide quality education by improving the conditions in which teaching and learning take place. In an era of constant change, this program is crucial for schools to survive and enhance their quality (Hopkins et al., 1994). The primary focus of the program is on students' learning and their learning outcomes. High-performing schools support students' learning through the implementation of best practices across various elements within the four domains of schooling (Gallagher, 2004).

The main goal of school education is to promote students' learning and achievements, and teaching is the key to achieving desired learning outcomes. The study of school improvement emphasizes the central role of teaching and learning in the pursuit of sustained school improvement (Hopkins et al., 1994). Teaching and learning are fundamental factors that make a difference in the minds of learners, influencing their knowledge, skills, attitudes, and capacity to contribute to contemporary societies. Classroom conditions, including student and teaching-related factors, significantly impact the teaching and learning process (Hopkins, 2002).

The school learning environment encompasses the internal characteristics, both psychological and physical, that influence staff, students, and the teaching and learning processes within the school (Reynolds, 1996). Therefore, schools are expected to create a conducive climate and culture that facilitate effective teaching and learning. Addressing school culture directly is essential for achieving school improvement. When the school environment is suitable for teaching and learning processes, it greatly contributes to the quality of education (MoE, 2007). A stimulating school environment encourages purposeful student activity and supports a wide range of activities that facilitate learning. According to a study conducted by Gezahegn and Abebe (2019), the school environment consists of physical, psychosocial, and service delivery elements. The study also indicates that the physical learning environment varies from modern, well-equipped buildings to open-air gathering places.

The quality of administrative support and leadership is another critical element in school processes. Education systems benefit from decentralized management, which brings services closer to students, parents, and communities. Effective leadership is not solely dependent on a single leader but can be distributed among individuals within the school, fostering collaborative cultures and positive relationships (Harris, 2005). Effective leaders in schools are those who can build high-performing work teams.

Schools become more effective and caring when they are actively involved in the community. To create a good and safe learning environment, schools must enhance family and community

involvement. This involvement leads to improved academic performance, reduced disciplinary problems, higher staff morale, and better utilization of resources (Adelman and Taylor, 2007). The Ministry of Education (MoE, 1994) has outlined basic principles for community involvement strategies in schools, including conducting village meetings to understand the interests and challenges related to children's education, identifying leaders for school-based communities, and giving parents a role in the day-to-day management of the school.

Furthermore, the stakeholders of the school improvement program, such as principals, school improvement committees, parents, teachers, and students, should actively participate in all phases of program implementation, particularly in monitoring and evaluation. Monitoring and evaluation mechanisms are important to ensure functional progress and achievements, aligning with the Ministry of Education's general education quality improvement packages (MoE, 2007). Among the four domains, teaching and learning receive particular attention as they play a crucial role in determining the success of schools in promoting students' learning outcomes (MoE, 2011).

According to the information presented in Figure 1, the improvement program comprises four domains and 12 elements (MoE, 2007). The Ministry of Education has developed these domains with the intention of decentralizing them to the regions and subsequently disseminating them to the lower educational sub-sectors within the country. This dissemination will be accomplished through various forms of training, specifically targeting educational leaders, experts, and school teachers.

To sum up, the school improvement and effectiveness literature has evolved significantly in recent decades, moving beyond simplistic input-output models toward a more nuanced understanding of the multifaceted and context-dependent nature of school improvement. Contemporary frameworks emphasize the importance of considering the school as a complex, dynamic system embedded within broader ecological contexts (Reynolds et al., 2014; Creemers and Kyriakides, 2015).

School improvement is not merely about implementing standardized interventions, but rather a recursive process of organizational learning and adaptation that takes into account the unique circumstances, resources, and challenges of each school (Hargreaves and Fullan, 2012; Fullan, 2016). Key domains that have been identified as critical for effective school improvement include leadership and school culture, curriculum and instruction, professional development and teacher quality, student and community engagement, and data-driven decision making. These domains interact in complex ways and require a holistic, systemic approach to school improvement, rather than fragmented, piecemeal interventions (Leithwood et al., 2019; Hargreaves and Fullan, 2012).

In the context of Ethiopia, the challenges faced in implementing school improvement efforts may be shaped by factors such as resource constraints, centralized educational governance, teacher professional development needs, and cultural norms around community engagement (Habtamu, 2012). Carefully considering how these contextual factors interact with the key domains of school improvement may provide valuable insights for designing and implementing more effective and sustainable school improvement strategies in Ethiopia.

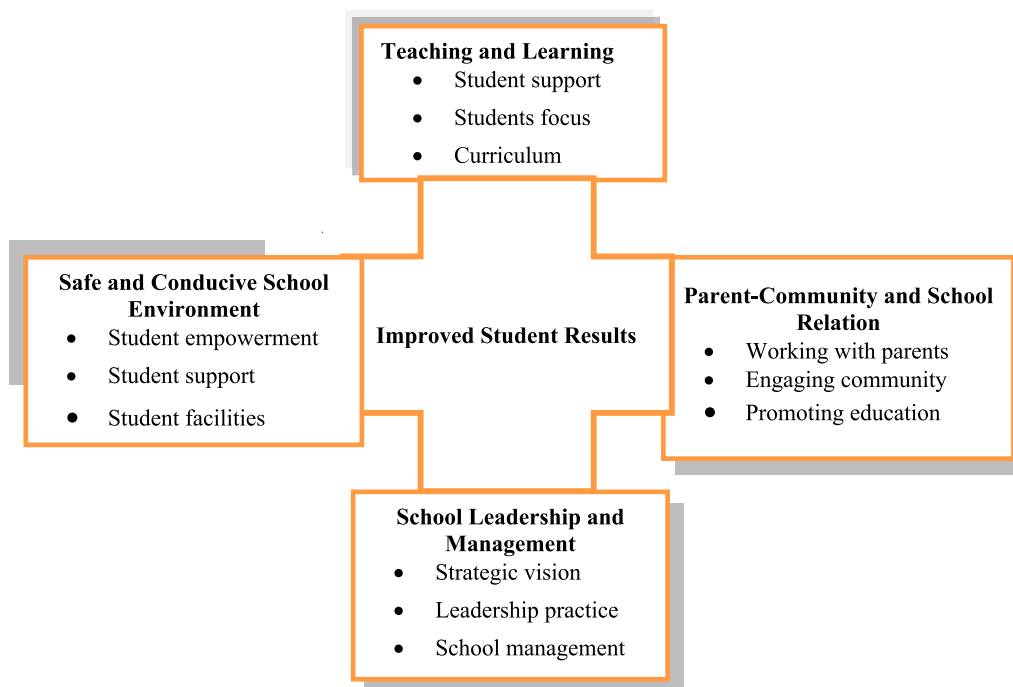


FIGURE 1

Domains and elements of the school improvement program (SIP). Source: adopted from school improvement blue print manual (MoE, 2007).

3 Research methods

3.1 Study area description

Gamo Gofa Zone is one of the 15 zones located in the Southern Nations, Nationalities, and Peoples Regional State of Ethiopia. The administration of the zone consists of 15 rural districts and two city administrations. The capital town of the zone is Arba Minch, situated 505 km to the south of Addis Ababa, the country's capital, and 255 km from the regional city, Hawassa.

According to the 2017/18 annual abstract from the Gamo Gofa Zone Education Department, there are a total of 902 schools, 12,445 teachers, 238 supervisors, 902 directors, and 542,867 students. The focus of the present study is on four districts within the zone: Bonke, Boreda, Demba Gofa, and Geze Gofa (Figure 2).

3.2 Research design

The current study employed a descriptive survey research design to gather information about one or more groups of individuals, such as their characteristics, opinions, attitudes, or past experiences (Leedy and Ormrod, 2005). This design was chosen because it allows researchers to obtain reliable and pertinent data from diverse groups regarding the actual implementation of the problem under investigation. It also facilitates the collection of a substantial amount of quantitative data from a sample population within a specific timeframe, which can then be quantitatively analyzed using descriptive and inferential statistics (Best and Kahn, 2005). Moreover, this descriptive survey approach was well-suited to capture a comprehensive understanding of the target population's experiences, perceptions, and opinions related to the

problem of interest. The quantitative data collected can provide valuable insights to inform future research and interventions.

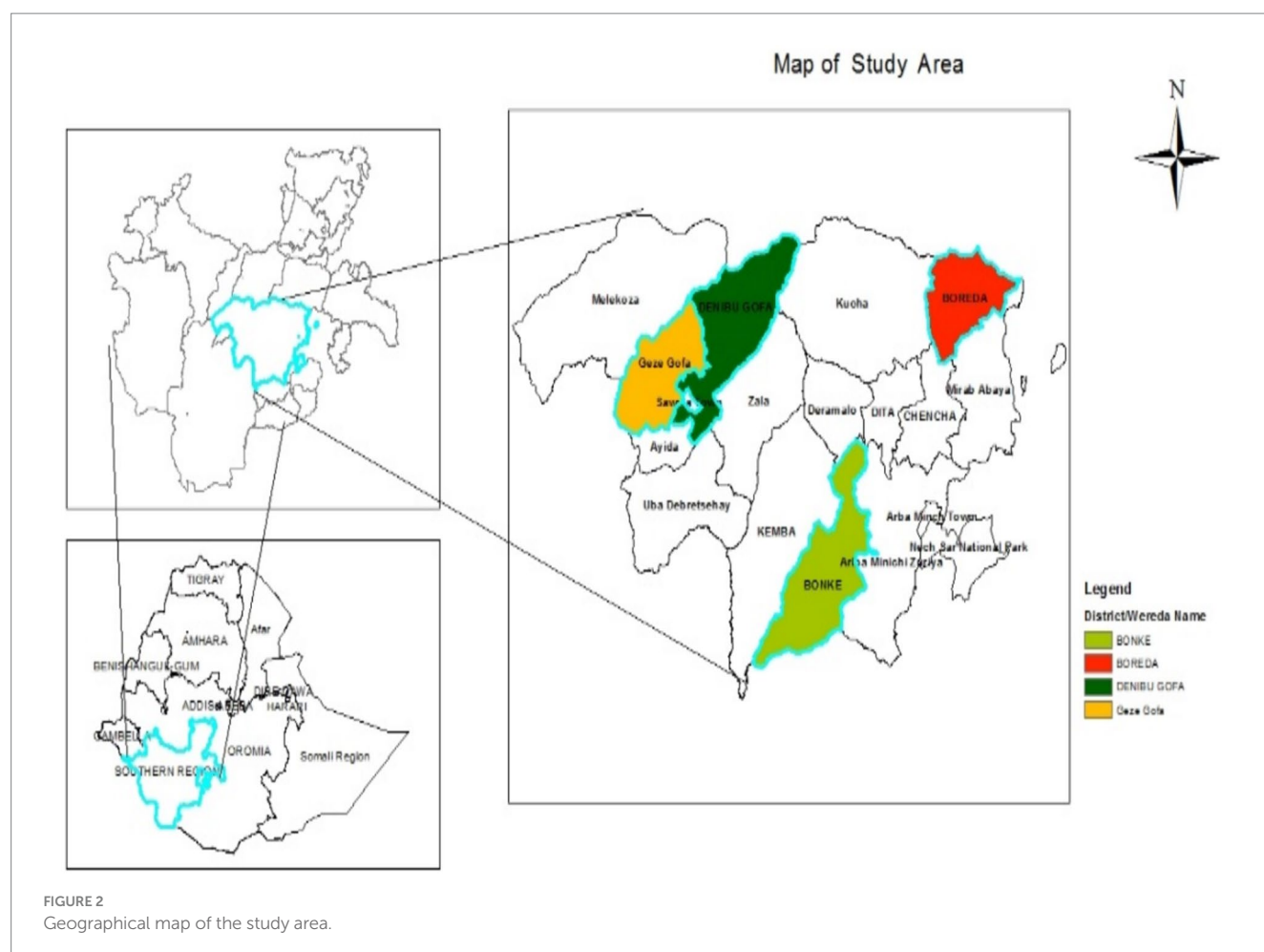
3.3 Research method

The study employed a quantitative research method which involves the systematic empirical investigation of observable phenomena via statistical, mathematical, or computational techniques (Neuman 2000). This method is well-suited for collecting a large volume of data from a defined sample within a limited timeframe (Best and Kahn, 2005).

Moreover, quantitative research is commonly used to address specific research objectives and questions (Engel and Schutt, 2016). It allows researchers to measure and analyze relationships between variables, test hypotheses, and draw inferences about a population based on a representative sample. This method is particularly effective for assessing the opinions, attitudes, and behaviors of a large target population. The use of quantitative methods facilitated the gathering of numerical data that could be statistically analyzed to identify patterns, trends, and relationships. This enabled the researchers to generate objective, quantifiable insights about the topic of study. Hence, by collecting and analyzing numerical data, the researchers were able to produce findings that could be generalized to the broader population and replicated in future studies.

3.4 Study population, sampling, and sample size

Regarding the sampling process, a simple random technique was employed to select teacher and student groups. Census and availability



sampling techniques were used to obtain principals and school improvement committees, respectively. Out of a total of 15 districts and two city administrations, four districts were chosen. Similarly, out of 152 primary schools, 16 schools were selected. Furthermore, 99 teachers were chosen from a pool of 411 teachers, while 396 grade seven and eight students were selected from a total of 3,470 students. Additionally, 32 school principals were selected from a group of 42 and 44 school improvement committee members were chosen from a pool of 91 members.

The selection of 571 participants in total was based on the recommendation to include at least 10–20% of the total population to determine the desired sample size (Neuman, 2000). These participants were chosen to represent the population from which each stratum was drawn (Table 1).

3.5 Data collection instruments

A survey questionnaire consisting of close-ended items was utilized to gather quantitative data from students, teachers, principals, and school improvement committees. This approach offers the advantage of efficiently collecting information from a large number of respondents within a short timeframe and at a reasonable cost. The items in the questionnaire were designed based on the main domains,

elements, standards, and indicators of the SIP, which were originally developed by the Ministry of Education of the Country, Ethiopia. The questionnaire consisted of a total of 24 items, organized as follows: the first seven items pertained to the teaching-learning domain, the next nine items were related to school leadership, four items were focused on the conducive school environment, and the remaining four items addressed community participation. A five-point rating Likert scale was employed, with the following scale: very high-5, high-4, medium-3, low-2, and very low-1, to collect data from the respondents.

To analyze students' academic results during different phases of SIP implementation, a thorough review of academic records from grade four zonal and grade eight regional examinations was conducted.

3.6 Reliability and validity

The initial reliability test of the research instrument, conducted with 30 participants at Kamba primary school, yielded a Cronbach's alpha of 0.71. After making corrections such as rewording ambiguous questions and adjusting the item set, the Cronbach's alpha increased to 0.86 upon re-testing. The survey items were also reviewed by subject matter experts for validity. The overall reliability coefficient for the study variables was found to be >0.8 , which is considered an acceptable level (George and Mallery, 2003).

TABLE 1 Participants of the study.

Types of respondents	Bonke			Boreda			Dembagofa			Gezegofa			Total		
	P	S	%	P	S	%	P	S	%	P	S	%	P	S	%
Schools	40	4	10	37	4	10.8	39	4	10.2	36	4	11.1	152	16	10.5
Principals	8	8	100	9	9	100	9	9	100	6	6	100	32	32	100
Teachers	100	26	26	90	32	35.5	108	21	19.4	113	20	17.7	411	99	24.1
Students	931	105	11.3	532	85	16	1,058	108	10.2	949	98	10.3	3,470	396	11.4
SIC	29	11	37.9	20	9	45	20	11	55	22	13	59.1	91	44	48.3
Total	1,068	150	14	651	135	20.7	1,195	149	12.5	1,090	137	12.6	4,004	571	14.3

P, Population; S, Sample size; SIC, School improvement committee. Source: Gamo Gofa Zone Education Department (2019/20).

3.7 Methods of data analysis

Descriptive statistics, including measures such as mean and standard deviation, were employed for statistical analysis to assess the level of implementation across the main SIP domains. Bar graphs were utilized to visually present and compare the academic performance of the reviewed students during various strategic periods. Additionally, one-way ANOVA was employed to identify any significant differences in implementation among the four program domains and the four districts. Before application of the ANOVA test, its preconditions like randomization, normal distribution and homogeneity of variance were checked.

4 Results and discussion

This section is dedicated to presenting the results and discussing the major findings of the study. The findings are organized according to three themes that were developed based on the research questions. Descriptive statistics were utilized to assess the level of implementation of the SIP in four domains. To facilitate this assessment, a five-point Likert scale was employed, with the following ranges: very high (4.50–5.00), high (4.00–4.49), average (3.00–3.99), low (2.00–2.99), and very low (1.00–1.99). The implementation of SIP domains across different districts was compared and analyzed using one-way ANOVA. Additionally, the section includes a presentation of students' academic results during various SIP strategic eras. The major findings are discussed within each theme, supported by empirical evidence and relevant literature.

4.1 The extent of SIP implementation in the four main domains

Regarding the magnitude of SIP implementation, the data obtained from principals, school improvement committees, teachers, and students of the four districts are commonly treated using descriptive statistics; mean and standard deviation as indicated in Table 2.

In Table 2, the analysis indicates that the implementation of the Geze Gofa district SIP across four domains is at an average level. The mean scores for each domain are as follows: teaching-learning ($M = 3.99 \pm 0.655$), school leadership ($M = 3.83 \pm 0.696$), conducive school environment ($M = 3.53 \pm 0.963$), and community participation ($M = 3.23 \pm 1.122$). Notably, the Geze Gofa district shows a high level

of implementation in teaching-learning and school leadership domains.

Similarly, in the Demba Gofa district, the mean values indicate an average level of implementation across all domains: teaching-learning domain ($M = 3.96 \pm 0.625$), school leadership ($M = 3.87 \pm 0.710$), conducive school environment ($M = 3.54 \pm 0.947$), and community participation ($M = 3.35 \pm 0.979$). However, the schools in the Demba Gofa district are very close to a high level in the teaching-learning and school leadership domains.

Furthermore, the analysis reveals that schools in the Boreda district are at an average level across all four domains. However, the teaching-learning and school leadership domains show a good potential for performing at high levels. Lastly, the Bonke district results indicate that schools' performance in implementing teaching-learning ($M = 3.75 \pm 0.862$), school leadership ($M = 3.67 \pm 0.890$), conducive school environment ($M = 3.28 \pm 1.169$), and community participation ($M = 2.98 \pm 1.184$) are nearly at the average extent of implementation.

To sum up, the analysis reveals that the implementation of the SIP varies across the districts. Geze Gofa and Demba Gofa districts perform well in teaching-learning and school leadership. Boreda district shows potential for high performance, while Bonke district's implementation is moderate in all domains. The overall SIP implementation with regard to the main domains are presented in Table below.

The scores presented in Table 3 demonstrate the average scores for the implementation of the SIP across four main domains. The mean score for the overall implementation of SIP in these domains was 3.89 ± 0.711 for teaching-learning, 3.79 ± 0.762 for school leadership, 3.43 ± 1.007 for conducive school environment, and 3.33 ± 1.064 for community participation.

The overall implementation of the School Improvement Program (SIP) across the four domains was found to be at a moderate level, as evidenced by an average score of 3.58 ± 0.722 . Likewise, previous studies have identified several key factors limiting SIP implementation, including lack of learning facilities and poor community participation (Dabesa and Cheramlak, 2021), inadequate financial and material resources, low follow-up and support from education officials, lack of commitment from the school community, and poor cooperation from parents and partner organizations (Kalayou, 2011), absence of a well-prepared plan, poor understanding of SIP at the school level, weak monitoring and evaluation, lack of leadership capacity, insufficient stakeholder involvement, and insufficient attention to SIP (Yishak and Triegaardt, 2022). Similarly, the major hindering challenges hindering

TABLE 2 Descriptive statistics of SIP domains among districts.

District		Main SIP domains			
		Teaching learning	School leadership	Conducive school environment	Community participation
Geze Gofa	N	137	137	137	137
	M	3.99	3.83	3.53	3.23
	SD	0.655	0.696	0.963	1.122
Demba Gofa	N	149	149	149	149
	M	3.96	3.87	3.54	3.35
	SD	0.625	0.710	0.947	0.979
Boreda	N	135	135	135	135
	M	3.89	3.83	3.35	3.34
	SD	0.646	0.716	0.901	0.910
Bonke	N	150	150	150	150
	M	3.75	3.67	3.28	2.98
	SD	0.862	0.890	1.169	1.184

N, No. of observation; M, Mean; SD, Standard deviation.

TABLE 3 Overall extent of SIP domains implementation.

Main domains	No of observation	Minimum	Maximum	Mean	Standard deviation
Teaching learning	571	1.14	5.00	3.89	0.711
School leadership	571	1.00	5.00	3.79	0.762
Conducive school environment	571	1.00	5.00	3.43	1.007
Community participation	571	1.00	5.00	3.33	1.064
Grand mean	571	1.06	5.00	3.58	0.722

effective implementation of SIP were found to be scarcity of instructional materials, lack of adequate budget, improper utilization of school grants, absence of incentive mechanisms, and failure to search for additional budgets (Solomon, 2020).

However, Gezahegn and Abebe (2019) found that the preparations made for SIP implementation were satisfactory, while Kifle and Tariku (2014) suggested that the participation of different stakeholders, such as teachers, students, parents, principals, and supervisors, in the school improvement program is weak due to a lack of coordination toward common goals, and recommended that school management should take responsibility for organizing the efforts of various stakeholders to ensure effective SIP implementation. Similarly, Marzano (2003) noted that the SIP initiatives in South Africa faced challenges such as a lack of material resources, limited capacity of educational leaders, poor participation, and a lack of safe institutional environments. Hopkins (2002) also observed the difficulty in changing school management and work culture to effectively implement SIP in developing countries.

The ANOVA results in Table 4 showed significant differences among the four main domains implemented in the schools of selected districts. The F -values and associated p -values were as follows: teaching-learning ($F=9.039$, $p=0.003$), school leadership ($F=6.117$, $p=0.014$), conducive school environment ($F=4.106$, $p=0.043$), and community participation ($F=10.246$, $p=0.001$). The F -tests and corresponding p -values indicated that there are significant variations

in these domains, with $p<0.05$ for each. This refers that the implementation of the four main domains differs significantly across the schools, highlighting the importance of addressing these areas for effective SIP implementation.

Likewise, the analysis of SIP implementation in different districts demonstrates a moderate level of effort across all domains, that is consistent with previous studies by Dereje (2012) and Lemessa (2016). Contrarily, Gezahegn and Abebe (2019) found that most schools implementing SIP performed moderately in four domains, with weak performance in community involvement. However, they noted that schools excelled in teaching-learning and school leadership, while putting less effort into improving the school environment and community participation. This suggests an imbalance in emphasis on different domains. Hence, MoE (2006) suggests that creating a safe and healthy school environment is crucial for school improvement, and Adelman and Taylor (2007) also emphasized the importance of schools being closely connected to the community for effectiveness and care. Likewise, enhancing community involvement can lead to improved academic performance, reduced disciplinary problems, increased staff morale, and better resource utilization (MoE, 2006; Adelman and Taylor, 2007).

Jeilu (2010) emphasized the need for continuous improvement even in the highest-ranked schools, particularly in the teaching-learning process, empowering stakeholders, creating conducive learning conditions, and enhancing leadership. In addition, MoE

TABLE 4 ANOVA results used to determine the difference in SIP implementation among the domains.

Variables		Sum of squares	Df	Mean square	F	Sig.
Teaching learning	Between groups	4.505	3	4.505	9.039	0.003
	Within groups	283.573	567	0.498		
	Total	288.078	570			
School leadership	Between groups	3.520	3	3.520	6.117	0.014
	Within groups	327.439	567	0.575		
	Total	330.959	570			
Conducive school environment	Between groups	4.146	3	4.146	4.106	0.043
	Within groups	574.561	567	1.010		
	Total	578.708	570			
Community participation	Between groups	11.433	3	11.433	10.246	0.001
	Within groups	634.923	567	1.116		
	Total	646.356	570			

(2011) highlights the importance of giving equal attention to the four domains, with teaching and learning being crucial for student outcomes. Challenges identified by Kalayou (2011), Mengistu (2017), Solomon (2020), and Solomon (2016) include scarcity of instructional materials, inadequate budgets, improper utilization of school grants, lack of incentives, lack of commitment from the school community, poor parental cooperation and support, exclusion of stakeholders in the planning process, and insufficient training for effective SIP implementation (Dabesa and Cheramlak, 2021). These challenges have limited the program's effective implementation.

4.2 The difference in implementation of SIP domains among districts

In 2006 Ministry of Education of Ethiopia launched SIP as a national program in all schools to improve student results. Particularly primary schools have been implementing a three-year strategic plan using SIP documents like school improvement framework, school improvement program implementation manual, and school improvement guideline. During this session, the researchers tried to show the significant difference among districts with regard to the main SIP domain implementation in primary schools using a one-way ANOVA.

According to Table 5, the statistical analysis ($F = 3.444$ and $\text{Sign} = 0.017$) and ($F = 3.900$ and $\text{Sign} = 0.009$) show that there is a significant difference in the implementation extent of teaching-learning and community participation domains among the four districts. However, the analysis of the school leadership domain ($F = 2.112$ and $\text{Sign} = 0.098$) and the conducive school environment domain ($F = 2.399$ and $\text{Sign} = 0.067$) reveals that there is no statistically significant difference in the implementation of SIP in these two domains across the schools in the four districts. This finding is consistent with the idea that school improvement should be the responsibility of each individual school, as mentioned by Stoll and Fink (1996). High-performing schools achieve student learning outcomes by employing effective practices across various elements within the four domains of schooling, as highlighted by Gallagher (2004). The Ministry of

Education of Ethiopia acknowledges that the specific practices within these domains may vary from country to country and from one location to another based on their respective priorities (MoE, 2006).

In general, the study found that there was a significant difference in the implementation of the teaching-learning and community participation domains of the SIP among four districts. However, there was no significant difference in the implementation of the school leadership and conducive school environment domains. The importance of school improvement was emphasized, and it was noted that practices within these domains may vary based on priorities.

4.3 The students' academic result difference in three SIP implementation strategic era

Simultaneously, the researchers examined records pertaining to students' academic achievements, which is the primary objective of implementing the SIP. In order to accomplish this, we analyzed 9 years' worth of data from three different strategic eras of the SIP, evaluating the results of zonal examinations for fourth-grade students, as well as the regional examination results for eighth-grade students. The findings were then presented in two bar charts, illustrating the percentage of students who were promoted based on the zonal and regional examinations across four districts. The charts also provide a comparative representation of the zonal examination results.

According to Figure 3, the data regarding the first two reviewed periods of implementing the SIP strategy in the districts from 2011 to 2013 and 2013 to 2016, indicates that over 90% of students were promoted to the next grade level, and this improvement was consistent for both males and females. However, in the period from 2016 to 2019, the percentage of promoted students dropped to 72.53%. Additionally, the graph shows that in the first two strategic eras of SIP implementation at the zonal level, the results for grade four students increased from 83.81 to 87.58%. However, in the third reviewed strategic era, the rate of promotion for zonal students decreased by 66.41%.

TABLE 5 ANOVA showing the difference among districts regard to main SIP domains.

Variables		Sum of squares	df	Mean square	F	Sig.
Teaching learning	Between groups	5.156	3	1.719	3.444	0.017
	Within groups	282.922	567	0.499		
	Total	288.078	570			
School leadership	Between groups	3.658	3	1.219	2.112	0.098
	Within groups	327.301	567	0.577		
	Total	330.959	570			
Conducive school environment	Between groups	7.253	3	2.418	2.399	0.067
	Within groups	571.454	567	1.008		
	Total	578.708	570			
Community participation	Between groups	13.069	3	4.356	3.900	0.009
	Within groups	633.287	567	1.117		
	Total	646.356	570			

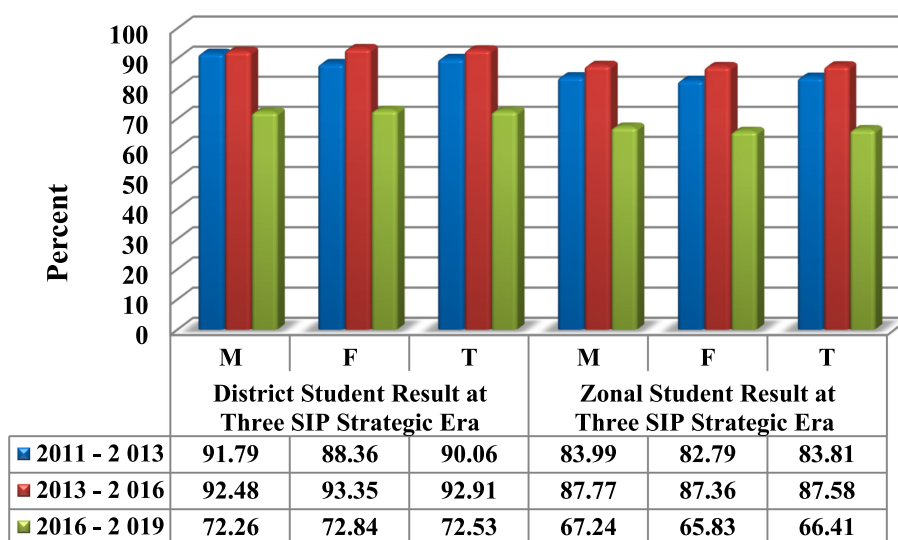


FIGURE 3

A bar graph of the percentage comparison for grade four students' results. Source: Gamo Gofa Zone Education Department (2019/20).

According to the bar graph shown in Figure 4, there was an improvement in the percentage of students promoted in the primary school leaving regional examination during the first and second reviewed strategic eras of the districts. This improvement was observed in both males and females, with an average of 80% of students being promoted to the next grade level. However, in the third reviewed strategic era, the percentage of promoted students decreased to 74.77%. The zonal data also showed a similar trend, with an improvement from 73.03 to 80.13% in the first and second reviewed strategic eras. However, in the third reviewed strategic era, the zonal rate of promoted students decreased by 10%.

Based on the information presented in the charts, it can be inferred that the implementation of the SIP in the districts has implications for student performance. The results of the grade four zonal examinations indicate that effective implementation of SIP is crucial in the first cycle primary schools of the study districts. Similarly, the grade eight regional examination results suggest that the

SIP is not yet properly implemented and requires careful attention in the study districts.

Likewise, the concept of school improvement involves enhancing the input and process of teaching and learning to improve student outcomes. The SIP aims to improve the quality of education and enhance students' learning achievements and outcomes. It is recognized as a vital strategy for schools to thrive and maintain quality in a changing educational landscape (Hopkins et al., 1994; Hopkins, 2002; MoE, 2006; Jeilu, 2010). The main focus of the program is to improve students' learning and learning outcomes. The purpose of school improvement, as stated by the Ministry of Education (MoE, 2007), is to enhance students' learning and their outcomes at a higher level.

Similarly, according to Yishak and Triegaardt (2022), the success of school improvement is directly linked to the systematic planning, monitoring, and evaluation processes implemented by school leaders. This contributes to higher student achievement. To ensure effective

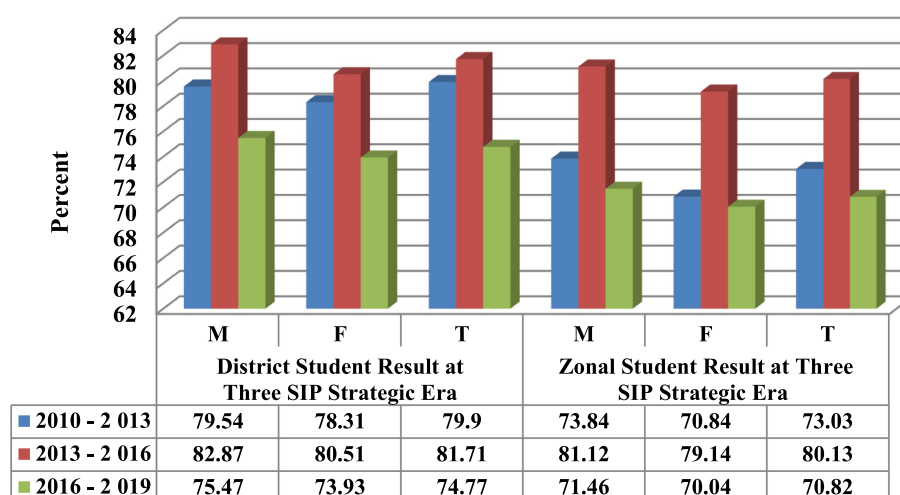


FIGURE 4

A bar graph of the percentage comparison of grade eight students' results. Source: Gamo Gofa Zone Education Department (2019/20).

school improvement, key stakeholders like teachers, students, and parents should be encouraged to actively participate in the planning and implementation. The central goal is to improve student performance, so school leaders must properly execute the school improvement agenda by raising stakeholder awareness, fostering collaborative responsibility, implementing and refining the main SIP domains, continuously monitoring progress, and addressing challenges that arise.

5 Conclusion

The findings indicate that the extent of implementing the SIP in its main domains in the primary schools of the Gamo Gofa districts is moderate. Additionally, the analysis reveals significant differences in the implementation extent across various key undertakings of the program. Regarding the differences in domain implementation among the four districts, the study reveals a significant disparity in the extent of implementation in the teaching-learning and community participation. However, no noticeable mean difference is observed in the implementation of the school leadership and conducive school environment domain. Furthermore, an examination of students' results in grade four zonal examinations and grade eight regional examinations during three strategic eras confirms the inadequate implementation of the school improvement program in the primary schools of the study districts. These results are believed to be generalizable only to the primary schools of south Ethiopia region. However, the study is plausible that limitations could have influenced the results obtained. Firstly, it does not provide a comprehensive view of SIP implementation because it solely concentrates on primary schools and excludes secondary schools. Additionally, it fails to address the challenges faced during moderate levels of SIP implementation. Moreover, the absence of qualitative data makes it difficult to either corroborate or supplement the findings obtained from quantitative data.

However, this study provides empirical evidence on the implementation of SIP in primary schools in southern Ethiopia. The findings reveal variations in the extent of SIP implementation across its key domains, highlighting uneven progress. The study, hence, establishes

a connection between program execution and educational outcomes, shedding light on systemic challenges inhibiting school effectiveness.

Overall, the moderate and uneven implementation of the nationally mandated SIP program underscores the complexities of large-scale educational reform in developing countries like Ethiopia. The observed disparities across districts in implementing critical domains suggest the importance of attending to local contexts and capacity building needs when rolling out system-wide initiatives. Accordingly, the following recommendations are forwarded to improve SIP implementation in particular, and primary school effectiveness in general:

- At school level, use the revised school improvement Blueprint and Ministry of Education's framework to emphasize enhancing the four domains, particularly school environment and community participation.
- Adopt incentive mechanisms to encourage best practices in SIP implementation at the zonal, district, and school levels.
- Regional education Bureaus and zone education sectors should provide training to stakeholders on planning, preparing, and implementing strategic plans for SIP, with a focus on teachers, principals and school improvement committees.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

The research conducted in this study received ethical approval from the Ethics Committee of the School of Pedagogical and Behavioral Sciences at Arba Minch University. The approval reference number is SPBS/971/2019 and it was issued on 02/12/2019. It is important to note that prior to the study, written informed consent

and assent were obtained from the parents/guardians and children aged 12 years and above, respectively. We, the authors, further confirm that the involvement of children under the age of 18 in this article has been conducted with ethical approval from the Arba Minch University committee, as acknowledged within the article.

Author contributions

SS: Data curation, Methodology, Writing – original draft, Writing – review & editing. MK: Conceptualization, Software, Supervision, Validation, Writing – review & editing.

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Conflict of interest

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Challenges posed to leadership: systematic review based on the relationships between curricular autonomy and teachers' well-being

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Introduction: This study is part of a cross-cutting and interdisciplinary funded research project involving researchers from different areas - education, sociology and psychology, which aims to contribute to deepening existing knowledge about the relationship between autonomy and curricular flexibility and teacher involvement and well-being. The study presented in this article is justified by the gap found in a Systematic Literature Review carried out in the context of the aforementioned research project. This research aims to understand the challenges posed to leadership based on the relationship between Portuguese educational policies within the scope of Autonomy and Curricular Flexibility developed since 2016 and teacher well-being. To this end, the research is based on the following question: What challenges do leaders face in promoting a school culture in a context of innovation and inclusion?

Methods: This article focuses on a systematic review of reports, recommendations, opinions and independent studies produced in the context of the development of autonomy and curricular flexibility policies in Portugal, published between 2015 and 2023. The selection of documents took into account the websites of the Ministry of Education in Portugal, the National Education Council, all the Teachers' Unions in Portugal and Transnational Organizations.

Results: The results show that leadership practices based on a collaborative approach and policies that favor teacher autonomy were associated with improved teacher well-being and the development of inclusive pedagogical practices. However, bureaucratization and work overload continue to be significant challenges in teachers' daily lives. It was also found that the practices of pedagogical leaders can promote innovation and inclusion, requiring continuous institutional support.

Discussion: The results point to the fact that fostering an inclusive and innovative school culture requires leaders to adopt policies that value teacher well-being

and promote opportunities for ongoing training. These results are in line with previous research that also points to the importance of a collaborative and supportive environment. The study is a starting point for further research into the relationship between curricular autonomy and teacher well-being.

KEYWORDS

pedagogical leadership, curriculum autonomy, curriculum flexibility, teacher well-being, teacher professional development, pedagogical practices, teacher training

1 Introduction

School leadership is increasingly seen as a key factor in the collective construction of an inclusive school, i.e., one that is committed to ensuring that each and every student learns. It is also decisive in educational transformation processes, making them meaningful and sustainable to respond to social challenges. To this end, it is necessary to co-create a school culture based on the assumptions of social justice and commitment to the well-being of all those who make up the educational community. This challenge requires recognizing that leadership does not end with the figure of a manager, i.e., top leadership. It is important to note that middle leaders are key players in the implementation of educational policies (Rohlfert et al., 2022). These leaders include department coordinators, cycle coordinators, head teachers, and other middle management positions that act between the school board, teachers, students, and families, as is the case with head teachers. This is because, by acting at the meso level of the system, they have privileged contact with students and parents, promoting communication between the different levels of management and ensuring the implementation of educational policies on the ground (Chang, 2016).

Leadership practices are therefore a privileged object of study for analyzing the implementation of educational policies within the framework of school autonomy (Lima, 2021). This is because leadership is not a single concept, since it is not consensual in the scientific community and has undergone various transformations in its meanings from the end of the 20th century to the present day (Nye, 2009). Similarly, leadership styles are diverse. For example, transactional leadership uses approaches and rules to recognize individual achievements, developing actions that “are based on reward, punishment and self-interest” (Nye, 2009, p. 90). From the perspective of transactional leadership, “the leader only indicates the behaviors to adopt and the objectives to achieve, without influencing or motivating the followers to pursue the desired goals” (Castanheira and Costa, 2007, p. 144). On the other hand, transformational leaders “inspire and empower their followers, using moments of conflict and crisis to awaken their consciences and transform them” (Nye, 2009, p. 89), appealing to the collective interest. At the same time, distributed leadership is based on a collaborative approach, in which responsibility and decision-making are shared between different agents in the educational community, which favors the active participation of all (Spillane, 2006). Instructional leadership prioritizes direct support for teachers and a focus on pedagogical and curricular strategies (Hallinger, 2009). It is also worth mentioning laissez-faire

leadership, is characterized by a leader who “does not exhibit typical leadership behaviors, avoiding making decisions and abdicating responsibility and authority” (Antonakis et al., 2003). As a result, the exercise of leadership is limited to solving problems only when they get worse (Bass and Riggio, 2006).

Leadership styles are not “mutually exclusive,” since many “leaders use both styles at different times and in different contexts” (Nye, 2009, p. 91). It is about influencing people through a process of communication, mobilizing experience to make decisions, which requires the application of each of their styles depending on the situation, based on the interaction between the educational community and leaders (Estanqueiro, 2019). Thus, the concept of leadership adopted in this work is based on direction, team building, and actions that can inspire the educational community by example and word of mouth (Adair and Reed, 2006). Leaders can influence and mobilize subjects to create a sense of community, based on a holistic view of the context and practices based on collaboration. This can move everyone in the educational community toward a collective contract to guarantee the learning of each and every student (Fullan, 2020). These are leaders who involve the entire educational community in sharing values with a view to the common good and innovation (Bao, 2024).

In line with the conception of Estêvão (2000), leadership practices must be related to the new demands of the current organizational environment, taking into account the construction of horizontal relationships about hierarchy, with new political concerns that support decision-making based on democracy and autonomy. In this understanding, leadership does not consist of mobilizing others to solve problems whose solutions are previously known but rather supporting the educational community in solving problems that have never been solved (Fullan, 2020). In this way, the exercise of leadership requires a comprehensive vision of the context and the objectives for its development, which results from a transparent and dialogued process, through the articulation of the perspectives of the subjects of the educational community, who are part of a network of formal and informal, internal and external contacts (Rego and Cunha, 2004). They must therefore consider the planning and implementation of a vision, starting with the establishment of a strategy to achieve it. In addition, building a network of people who agree with and can achieve the vision is fundamental, but it is also necessary to motivate the members of the educational community to achieve this vision (Kotter, 2017).

With this in mind, it is important to co-construct dynamics of commitment and collaboration with a view to professional development (Faizuddin et al., 2022) and teacher agency. In this sense, it is assumed that the dialog between theory and

practice, in a collaborative way in the processes of teaching and learning and professional development, constitutes a space for transforming subjects and contexts (Northouse, 2018). This can be co-constructed by establishing partnerships with other educational agents who can contribute to enriching teachers' knowledge. For example, partnerships between schools and universities can give shape to lifelong learning processes, as an opportunity for transformation and emancipation of the subjects in the educational context (Contreras, 2003; Vieira, 2013). Another possibility for professional development lies in Pedagogical Supervision practices when based on a culture of teacher collaboration in the context of a Learning School (Alarcão, 2009), as a factor for change and renewal of educational practices (Vale et al., 2024). These dynamics, when developed based on the assumptions of learning communities (Bolívar and Segovia, 2024), can contribute to a culture that serves teachers' personal and professional well-being.

According to Aziri (2011), job satisfaction includes psychological, physiological, and environmental conditions and factors that ensure positive feelings toward work, increasing productivity, and a sense of well-being (Dami et al., 2022). Hongying (2007), for his part, presents five factors that point to the perception of satisfaction with teaching work: school management, teaching, colleagues, performance, and career progression prospects. At the same time, Molero et al. (2019) add to these factors relationships with students, organizational aspects, lack or absence of resources, and low self-esteem.

It is important to note that the benefits of well-being are not only limited to the subjects but are also related to the development and maintenance of relationships between teachers and students, contributing to a positive learning climate (Dreer, 2023). In other words, teacher well-being plays a central role both in the school environment (Matos et al., 2022) and in promoting learning (Jennings and Greenberg, 2009).

In this context, leadership practices must be based on a process of reflection-action (Schön, 1983), which can be understood as a dimension of agency. This is a concept commonly used to explain the social action of those who, for a specific reason, decide to act on something to bring about change (Zadok et al., 2024). Although it is used in different scientific contexts, in an educational context it can be related to the action of its agents, as vectors of change and active contributors to educational reforms (Priestley et al., 2015).

In terms of transformation, the Portuguese education system underwent a significant curriculum changes between 2016 and 2018. This was marked by the introduction of legislative measures and public policies aimed at promoting inclusion, autonomy, and curricular flexibility and combating school failure (Diário da República, 2016, 2018a,b). In 2016, the National Program to Promote School Success (PNPSE) (2016) was created, to promote equity, improve the quality of teaching, and reduce school failure rates. In 2017, the Pedagogical Innovation Pilot Projects (PIIP) began, which stood out for introducing experimental practices in school clusters, to eliminate school dropouts through flexible management of 100% of the curriculum. Committed to the holistic development of each and every student, based on education for democracy, the National Strategy for Citizenship Education (Monteiro et al., 2017) was drawn up to train active, critical, and aware citizens.

This period saw the start of the Autonomy and Curricular Flexibility Project (PAFC), in which 226 school groupings and non-grouped schools took part. This gave each educational setting the possibility of managing up to 25% of the curricular workload, adapting teaching to its specific needs. After evaluating the implementation of this project in the form of a pedagogical experiment, this curricular changes culminated in the enactment of Decree-Laws 54/2018 (2018a) and 55/2018 (2018b), both of July 6 (Diário da República, 2016, 2018a,b). Decree-Law 54/2018 deepened the understanding of inclusion as an essential element of education, ensuring that each and every student is supported in their learning process, regardless of their individual needs. Decree-Law 55/2018 strengthened schools' curricular autonomy, allowing them to adapt the curriculum to their specific realities to promote learning by managing up to 25% of the curriculum.

This set of educational policies that embody Autonomy and Curricular Flexibility is based on the vision of an education system that values inclusion and equity. The focus is on providing students not only with academic knowledge but also with skills and attitudes that culminate in the competencies set out in the curriculum document Profile of Students Leaving Compulsory Schooling (Martins et al., 2017). These include critical thinking, communication, and problem-solving; as well as ethical, cultural, and social values for an education that recognizes students as active citizens in an ever-changing society.

The implementation of this educational policy in the context of autonomy and curricular flexibility has been evaluated through studies that highlight its positive impacts on curriculum articulation, teacher collaboration, and the diversification of teaching methodologies. The recent legislative changes have highlighted, especially through the evaluation of this policy, the importance of "monitoring leadership strategies and their impact on the empowerment of actors and institutions as systematically as possible (.)" (Cosme et al., 2021, p. 106).

This political-educational scenario summons school contexts to the challenge of promoting learning for each and every one of their students through an agency inserted at a micro level of "curricular management autonomy" (Lima, 2020, p. 187). This implies the ability to the degree of power of given individuals or groups - especially individual teachers or the governing bodies of schools - in determining what students will learn (Morgado and Sousa, 2010, p. 371).

In this context of increasing autonomy and accountability, the role of leadership is crucial to the success and sustainability of educational reform (Hargreaves and Fullan, 2021). However, we cannot ignore the fact that this scenario makes teaching work more complex, which can be a challenge to teachers' well-being if they are not offered the necessary conditions for the full professional exercise of their duties (Duong et al., 2023). The results presented in the Eurydice Report (2021) indicate that Portuguese teachers are the most stressed at work. In this sense, it recommends that policies aimed at improving teacher well-being should seek to strengthen teamwork and collaboration within schools, developing social and interpersonal skills and teachers' sense of autonomy in their work.

Through a systematic review process, this article aims to understand the challenges posed to leadership based on the relationship between Portuguese educational policies in the field of Autonomy and Curricular Flexibility and teacher well-being. Recognizing the diversity of leadership styles and the crucial role

that principals and middle leaders play in guiding educational processes, the research in this article is based on the following question: What challenges do leaders face in promoting a school culture in a context of innovation and inclusion?

2 Methods

This study was conducted as part of a cross-cutting and interdisciplinary funded project involving researchers from different fields - education, sociology, and psychology - and different generations. The aims of the Project in development is to contribute to deepening existing knowledge about the relationship between autonomy and curricular flexibility and teacher engagement and well-being. This article, which is an excerpt from the aforementioned project, focuses on a systematic review of reports, recommendations, opinions, and independent studies produced in the context of the development of autonomy and curricular flexibility policies in Portugal. It followed the ethical guidelines of the Committee on Publication Ethics (COPE) and was approved by the Ethics Committee of CeIED, the research center that includes the authors.

A systematic review is a review that has the explicit intention of being conducted systematically (Okoli, 2015). It is thus a methodical and comprehensive approach to identifying, selecting, and critically evaluating relevant documents on a specific topic to answer a well-defined research question (Gonçalves and David, 2022; Manterola et al., 2013). In this sense, systematic reviews are an opportunity to synthesize a specific topic from the evidence available from primary sources. Considering the object of this research, the systematic review is an opportunity to synthesize the relationships between autonomy curricular flexibility, and teacher well-being, supporting the understanding of the challenges posed to leadership. It is hoped that the evidence arising from this systematic documentary review can assist decision-making in different sectors, including those responsible for formulating educational policies.

The systematic review carried out in this article was based on the eight stages of Okoli's (2015) model, shown in Diagram 1, which represents the progression of its various stages.

With the aim (Stage 1) of understanding the challenges posed to leadership based on the relationship between Portuguese educational policies in the field of Autonomy and Curricular Flexibility and teacher well-being, a protocol for the systematic review (Stage 2) was planned collectively with the research team. The process included several researchers to guarantee impartiality and reliability. The definition of the protocol was based on the concern to ensure consistency in the execution of the review, in addition to the adoption of methods that improve transparency and reproducibility when conducting systematic reviews (Polanin et al., 2020). In this sense, the protocol was based on the Preferred Reporting Items for Systematic Review and Meta-Analyses (PRISMA) guidelines (Pigott and Polanin, 2020), given their potential to promote clear and complete documentation of reviews and to help readers better understand the methods, results and conclusions of the review (Moher et al., 2009; Page et al., 2021).

After taking on the PRISMA protocol, the documents to be submitted to the systematic review process were selected (Stage 3).

This study is justified by the gap found in a Systematic Literature Review¹ carried out by searching databases, taking into account our research object. This gap is related to a temporal issue that implies a gap between the recent implementation of the education policy in 2018 and the development and publication of scientific productions. In addition, as this is an educational policy, it is important to analyze the documents issued by the Ministry of Education, as well as other entities that directly or indirectly influence the development of educational policies, but which are not included in research. In this way, a systematic review of reports, recommendations, opinions, and independent studies allows for a more in-depth look from other angles, subjects, and perspectives.

Therefore, the documentary selection for this research was based on a search for various publications made between 2016 and 2023 on the websites of the Portuguese Education Authority (Directorate-General for Education, Ministry of Education), the National Education Council and Transnational Organizations (European Commission, OECD, UNESCO). To ensure that the research was comprehensive, external evaluations relating to the education policy under study were also analyzed, as well as documents inherent to the projects promoted by the Ministry of Education in this area, in addition to documents issued by the various teachers' unions in Portugal (Step 4). The selection of documents used combinations of the following terms: autonomy, curriculum, flexibility, and well-being. Of the 109 documents found, including reports, recommendations, opinions, and independent studies, 30 national and 7 international publications were selected. The exclusion criteria centered on not referring to the Portuguese reality and/or the context of primary and secondary education, as they did not concern the subject of this research. The process of analyzing each record to identify compliance with the inclusion/exclusion criteria was carried out independently by two researchers so that a consensus analysis could be defined. No automation tools were used at any stage of the research process. The PRISMA flow diagram (Figure 1) provides an overview of the search, screening, and identification procedures used in this review.

A full-text review was carried out on these 37 studies, and there were no documents that did not meet the inclusion criteria we defined or that included criteria for their exclusion. The data collection process was carried out independently by three researchers and then a consensus analysis was defined by two other researchers.

Thus, the selected documents (which consider the context of Autonomy and Curricular Flexibility in Portugal) were subjected to content analysis (Step 5) based on emerging categories. The analysis presented in the next section is guided by the category of teacher well-being, from an interpretative and qualitative perspective (Step 7), based on three subcategories, namely:

¹ Two members of the project took part in the ECER 2024 International Congress, Education in an Age of Uncertainty: memory and Hope for the Future, held in the city of Nicosia (August 27–30), presenting two papers: "Times of Change and times of change: a study of the relationship between curricular autonomy and teacher engagement and well-being" and "Curricular autonomy, work engagement and teacher well-being: A systematic review" where the scarcity of systematic reviews of reports, recommendations, opinions and independent studies was demonstrated.

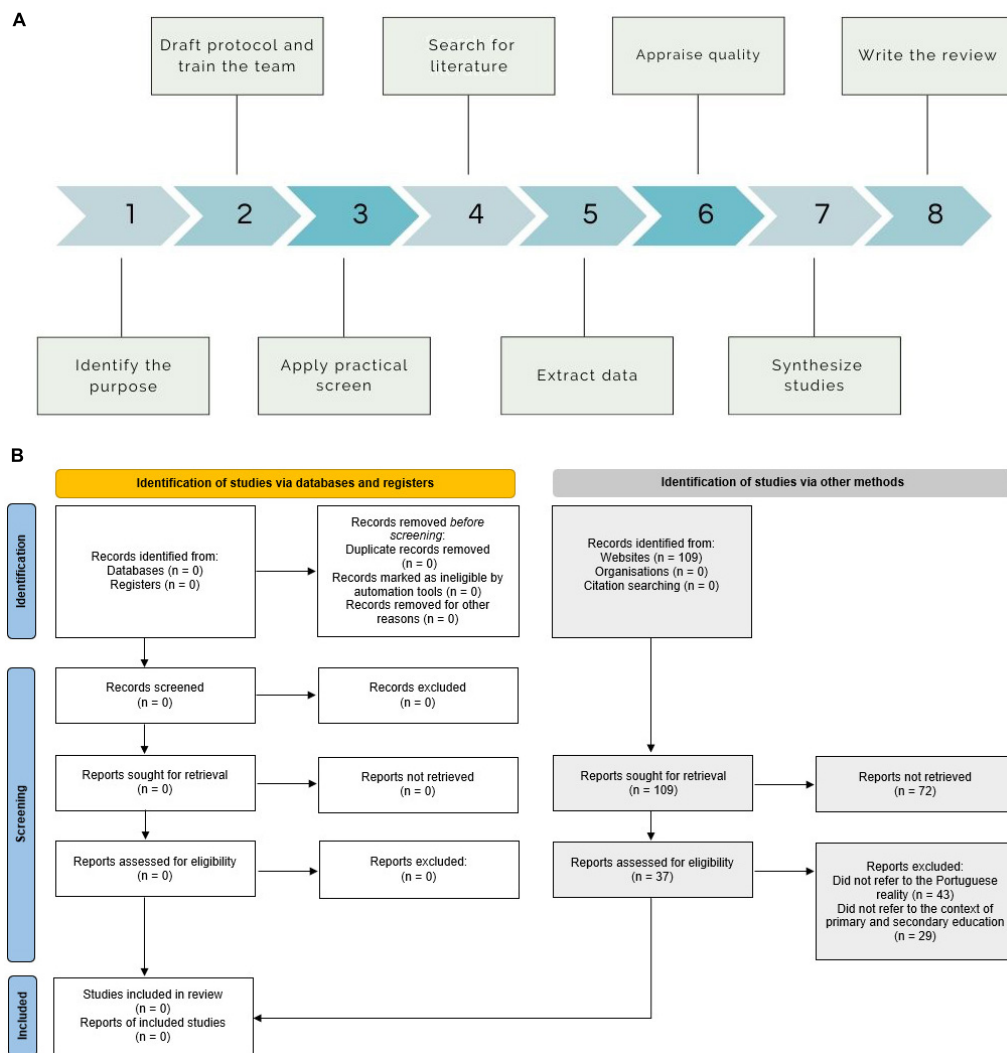


FIGURE 1
(A) The eight stages of Okoli's (2015) model. (B) PRISMA flow diagram.

- (i) Pedagogical practices: For the challenges posed in terms of promoting collaborative work and sharing experiences, practices, methodologies and materials and their impact on diversifying classroom practices. Also, the environment experienced in the school and its relationship with higher levels of teachers' psychological well-being.
- (ii) Teacher Training: The challenges posed by the professional development of teachers and their relationship with well-being.
- (iii) Performance Appraisal/Professional Development: Because of the challenges posed by promoting self-reflection on professional development needs and monitoring teaching staff, to improving their practices and ensuring their professional and personal well-being.

Alongside the emerging subcategories, the recommendations for promoting teacher well-being will be analyzed. Given that the 37 documents analyzed were issued by official bodies, there was no exclusion due to insufficient quality (Step 6). Finally, this article

responds to Step 8, i.e., the description of the systematic review process itself, with a view to transferability.

2.1 Synthesis

The documents that make up the systematic review presented in this article are summarized in the Supplementary Data Sheet, which gathers the information related to the aim of this research. The following information was compiled in a spreadsheet for each article: (a) Theme, (b) Year, (c) Organization/Institution, (d) Authors, (e) Title, (f) Description, (g) References. The themes fall into the 3 emerging categories described above.

3 Results

The results will be presented based on the three dimensions that emerged from the systematic analysis,

namely: Pedagogical Practices, Teacher Training, and Performance Evaluation/Professional Development. At the end, recommendations on promoting teacher well-being will also be presented.

3.1 Pedagogical practices

To develop the analysis, we will first explore the relationship between pedagogical practices and the well-being of teachers in the various documents consulted.

One of the main pedagogical practices that is mentioned as a positive influence on teachers' well-being is sharing and helping each other. In this sense, the evaluation study of Autonomy and Curricular Flexibility (Cosme et al., 2021) highlights that 53.6% of teachers consider it essential to share experiences, practices, methodologies, and teaching materials. At the same time, moments of discussion and pedagogical reflection present themselves as an opportunity to promote diversification in teaching and learning strategies and act as a social support mechanism between teachers. This collaboration is identified as an aspect related to improved job satisfaction and continuous professional development.

On the other hand, increased bureaucratization and work overload are mentioned in the documents as aspects that have negatively affected teachers' well-being. The accumulation of administrative responsibilities, along with the perceived length of curriculum documents, lack of resources, and disinterest on the part of students, are other factors identified as having the potential to aggravate teachers' physical and mental fatigue (Cosme et al., 2021; Varela et al., 2018). Likewise, the pressure to fulfill tasks unrelated to teaching practices is recognized as contributing to increased stress and emotional exhaustion among teachers. In this sense, a study carried out in 2018 by the National Federation of Teachers on the social organization of work in school education in Portugal, to understand teacher illness, indicates the need for a "redefinition of the teaching function and the structure and content of teaching, namely about programs and methods, in addition to demands for improved salaries and benefits" (Varela et al., 2018, pp. 76–77). It also highlights the impact of bureaucracy on teachers' well-being: From a planned and more democratic school, both for teachers and students, we move on to a bureaucratized school that is immovable in its organization, in order to sustain maximum flexibility - immune to pressure from its main players - accompanied by total unpredictability. The worst of both worlds - petrified and solitary management, widespread social flexibility. For those in charge, almost absolute power, for those who exercise it, almost total submission (Varela et al., 2018, p. 81).

We cannot ignore the societal and global challenges that can affect the dynamics of teaching professionalism. Although "the teaching profession [was] already, before the COVID-19 pandemic, exposed to high levels of stress" (Matos et al., 2022, p. 322), we highlight the unprecedented challenges brought to the school environment by the pandemic crisis and, consequently, transferred to pedagogical practices. In this context, teachers have felt the impact of the pandemic on their professional lives, reporting lower levels of life satisfaction and well-being. In addition, an increase

in psychological and psychiatric symptoms is also identified. There was also a perception among teachers of receiving less support from management and colleagues in the school context, which intensified the feeling of isolation and helplessness (Matos et al., 2022). The pandemic has not only hampered the development of teaching practices, but has also highlighted pre-existing problems, such as the lack of resources, especially digital resources, and the need to adapt quickly to distance learning technologies.

Assertive communication and support from school management and colleagues emerge as critical factors for teacher well-being. A solid support network in the school environment, made up of both colleagues and leaders, is fundamental for promoting well-being and reducing stress. Such action allows teachers to deal with the challenges posed by the profession, and to respond to the needs of each and every student, adapting teaching methodologies, especially during the pandemic (Matos et al., 2022). Teacher well-being, as a priority, should always be considered in education policies, to promote a healthy environment that favors teachers' professional development. To this end, it is important to consider that the factors that contribute to stress and the emergence of states of anxiety and depression in teachers identified by the scientific literature in this area involve age, teaching experience, remuneration, qualifications, workload and the psychological demands of the job (Matos et al., 2022, p. 328).

Regarding age, "the most recent Eurostat data indicate that, at the EU level, almost 40% of lower secondary school teachers are aged 50 or over, and less than 20% are under 35" (Varela et al., 2018, p. 32). The experience is important to support teachers at the start of their careers, to prevent them from leaving the profession. It's about offering guidance and mentoring according to the needs identified and the challenges faced. In this sense, having career prospects can be an important motivating factor for building a dynamic and evolving career path that can help make the teaching profession more attractive to young graduates (Varela et al., 2018).

Based on the challenges posed to teachers, teaching practice requires action that goes beyond the simple transmission of information. Teachers are expected to contribute to the holistic development of each and every student, taking into account and responding to individual differences through collaboration with other educational actors (Matos et al., 2022). However, these challenges for teachers hurt their well-being, bringing perceptions of emotional exhaustion and a certain demotivation. This is particularly true of teachers who say they don't receive adequate support from the educational environment, which implies a feeling of being unable to meet the expectations of the school, parents, and community.

Another important aspect mentioned in the documents consulted is the fact that, compared to other professionals, teachers are part of a population at risk in terms of well-being when it comes to developing mental health problems (Matos et al., 2022). Stress and burnout have a direct impact on teachers' ability to provide quality education, thus affecting student success. Likewise, teachers at advanced levels of burnout are more likely to be absent from their duties, which entails entropy in the education system.

In this context, the documents consulted point to the fact that coping strategies and the exercise of resilience are fundamental to teachers' well-being. Those who develop coping mechanisms tend to report better results in terms of both well-being and teaching practices (Matos et al., 2022). On the other hand, a lack of adequate

training and a sense of isolation are factors that worsen their well-being.

In short, the results point to collaborative teaching practices and institutional support as crucial factors for teacher well-being. In contrast, bureaucratization, work overload, and new demands, such as those imposed by the COVID-19 pandemic, are aspects that have compromised teachers' well-being. Therefore, the development of resilience strategies combined with better working conditions are opportunities to guarantee teachers' well-being.

3.2 Teacher training

Considering the second dimension that emerged from the systematic review, we will explore the aspects that relate teacher training to its influence on teacher well-being. It is important to consider various aspects that are directly related to the quality of training, continuous professional development, the development of pedagogical possibilities for adapting to teaching contexts, and strategies for teacher well-being.

Bearing in mind that “initial and in-service training represent two sides of a purpose that is intended to complement each other to train teachers for the educational challenges that circumstances demand” (Faria et al., 2020, p. 61), it is essential that this is a process that promotes not only scientific and pedagogical skills but also ethical aspects and participation in the school community. This is because, as mentioned in the previous dimension (pedagogical practices), teaching is a complex act that goes beyond the mere transmission of information. As such, the continuous development of teachers is essential to respond to the educational and social challenges facing a school that wants to be inclusive. In this sense, initial and ongoing training can help teachers feel prepared to face the challenges of the profession and, consequently, less vulnerable to stress, which can lead to greater levels of well-being. In this context, continuous teacher training is recognized as a complementary element to initial teacher training (Faria et al., 2020), from a lifelong learning perspective. This process of continuous learning can ensure that teachers not only keep up to date but also develop greater resilience in the face of the adversities they face in their profession.

As this is a profession whose training does not end with initial training, the documents consulted highlight the importance of knowledge associated with teaching practice. This is because “the specific knowledge of teachers, being practical knowledge, is developed and revealed in practice, hence the importance of training in context, and the privileged context of teacher practice is the classroom” (Faria et al., 2020, p. 63). Without ignoring the fact that theoretical training is essential in building teacher professionalism, articulation with real educational contexts is mentioned as a positive strategy for developing the knowledge teachers need. This helps teachers to reflect on and devise responses to the daily challenges faced in the classroom. This requires interpretation and action tailored to each situation faced, contributing to the construction of a personal pedagogical repository. This repository can be enriched by both individual and collective experiences through sharing with other teachers (Faria et al., 2020).

Since there is recognition that professional knowledge is developed in interaction with peers, “the importance of training

with and among peers” is highlighted (Faria et al., 2020, p. 63). This training developed in a collaborative context can support the process of reflection on action, allowing teachers to revisit their practices in the light of new theories and methodologies. In this understanding, the environment based on a culture of mutual support is identified as fundamental to teacher well-being (Faria et al., 2020), because it acts as a support mechanism, reducing the sense of isolation and overload that many teachers feel when carrying out their duties.

The impact of ongoing training is highlighted by teachers, and its importance in the context of the COVID-19 pandemic crisis is evident. This is because the abrupt need to transition to distance learning was less impactful for teachers who already had previous training in the areas, proving to be a decisive factor for their well-being (Matos et al., 2022, p. 323). This context underlines the importance of training in line with new technologies and emerging needs so that teachers can respond to unpredictable situations.

In summary, teacher training is identified in the documents consulted as a central element in the development of teaching skills and teacher well-being. Initial and ongoing training is recognized as an opportunity for teachers to develop strategies so that they can face the challenges posed by the exercise of their functions. The promotion of collaborative contexts between teachers, which value the sharing of experiences and practices, stands out for creating healthier educational environments that are conducive to professional and personal growth.

3.3 Performance evaluation/professional development

For an analysis of teacher performance evaluation and teachers' professional development and its relationship with well-being, it is essential to identify the impact of performance evaluations on the improvement of teaching practices, continuous professional development, and teachers' well-being.

The Eurydice Report (2023) *Structural indicators for monitoring education and training systems in Europe - 2023: The teaching profession* identifies performance evaluation as an opportunity for teachers' continuous professional development. It's about understanding performance appraisals as a space for dialogue to identify training needs, turning appraisals into an opportunity for growth and improvement. This is because, by identifying gaps and priority areas for training, each educational context will be able to design training offers tailored to local needs, directly contributing to the success of each and every student. In addition, the specialized support offered after evaluations is also identified as an aspect that promotes teachers' confidence in their pedagogical choices, which in turn influences their well-being and job satisfaction. This scenario is also related to teacher retention, since those who feel supported in their professional development tend to stay in their careers, reducing teacher turnover (European Commission/EACEA/Eurydice, 2023).

Another point of note in the Eurydice Report (2023) is the direct link between career progression or salary progression and the teacher performance evaluation process. That is when evaluations are directly linked to career progression or salary increases, teachers have an additional incentive to become more actively involved

in their professional development. Thus, the model of linking performance to career growth is widely advocated by bodies such as the [OECD \(2013\)](#), as it provides concrete motivation for teachers to continually strive in their teaching practices. Such an incentive not only contributes to the development of teacher performance but is also a long-term driver of motivation. Recognition for a job well done, through promotions or salary increases, generates a sense of appreciation that contributes to teachers' well-being and their desire to continue in the profession. This is because the feeling of career stagnation and the lack of prospects for professional growth contribute to the development of symptoms of emotional exhaustion and job dissatisfaction. In this sense, the Eurydice Report (2023) highlights the importance of creating a culture of constructive evaluation, which offers meaningful feedback and opportunities for growth. This has the potential to reduce stress and increase job satisfaction. Teachers who feel that their appraisals are focused on their personal and professional development, rather than being merely bureaucratic or judgmental processes, are more likely to experience a sense of well-being in their working environment. In short, the aforementioned report points to the need to implement educational policies that assume teacher performance evaluation as an integral part of teachers' professional development and well-being. As such, educational institutions and those responsible for formulating government education policies should consider creating training programs tailored to the needs revealed by the results of performance evaluations.

3.4 Recommendations on promoting teacher well-being

In this section, we will highlight the recommendations for promoting teacher well-being, based essentially on two documents published in the period under review, namely the recommendations of the National Education Council and those contained in the Report of the Observatory of Psychological Health and Well-being: Monitoring and Action promoted by the Ministry of Education in Portugal.

The recommendations show concern that teacher well-being be incorporated systemically into educational policies and practices. These recommendations address both the need to reformulate initial and in-service training practices and the implementation of institutional strategies to ensure long-term well-being. In addition, they refer to the need to promote self-care and the well-being of teachers and the school community, through various strategic actions. Bearing in mind that teacher stress is a recurring problem in schools, the recommendations also stress the importance of creating environments that prevent or mitigate this problem. Among the strategies suggested are:

- Active participation of the different players in the school community, such as students, parents, and teachers in projects and activities. Furthermore, it is important that this involvement also includes decision-making, taking into account the collective construction of a sense of belonging. This can contribute to co-creating a more balanced educational environment, which influences teachers' levels

of well-being, as they feel more involved and supported by their communities.

- Greater autonomy and curricular flexibility so that teachers can manage the organization of content and the dynamics of their classrooms. In this sense, autonomy is referred to as a central factor for well-being, as it provides greater scope for decision-making and authorship over one's work, resulting in a significant stress reduction.
- The provision of spaces for self-care in schools and activities to strengthen interpersonal relationships between teachers, managers, and other education professionals. These spaces and group activities are fundamental for promoting self-care and creating a support network within the school, as well as enabling the design of strategies for reconciling work and family life.
- Promoting ongoing training in the area of well-being, so that teachers can develop tools to deal with crises, support stress management and promote well-being, through strategies that allow them to organize their routines and responsibilities, balancing professional demands with personal life. From another perspective, training courses are also opportunities for forward-looking planning aimed at meeting the needs of the context. To this end, it can integrate the needs of the different teacher recruitment groups, anticipating future challenges and creating appropriate responses collectively. It is worth mentioning the recommendation that ongoing training be integrated into teachers' timetables, to promote teachers' ongoing professional development without overburdening them.
- Articulation between the University and educational contexts through the establishment of protocols, with the valorization of teachers who act as cooperating supervisors during internships in initial training. This should be complemented by continuous monitoring of teachers during their initial career, as suggested by replacing the probationary period with a real induction year.
- Reducing the workload of teachers with more years of service to prevent burnout. The CNE ([Ramos, 2016](#)) suggests reducing teachers' workload or the number of students per class, so that they can concentrate on teaching, learning, and assessment processes.
- Revaluing the teaching career, both professionally and socially, by improving working conditions and seeking consensus on solutions to the challenges faced by teachers.

These recommendations seek to create a more sustainable education system, where teachers are empowered to deal with the challenges of teaching and feel that they are in an environment that supports their well-being and professional development.

4 Discussion

Promoting an innovative and inclusive school culture involves creating a collaborative environment where teachers feel supported and have opportunities for professional development. The results indicate that pedagogical practices based on sharing and mutual

support between professionals are fundamental to teachers' well-being and the diversification of teaching and learning strategies. However, challenges include bureaucratization and work overload, which can reduce the time available for collaboration and pedagogical reflection (Varela et al., 2018).

In this sense, dialog with the educational community is one of the challenges facing leaders, requiring a deep and holistic view of the context. Co-creating a school culture based on horizontal and assertive communication is a challenge that requires overcoming hierarchical barriers that can hinder pedagogical innovation. Thus, in line with Chang's (2016) thinking, leaders must act as intermediaries between the school and the community, encouraging the implementation of actions that promote inclusion.

Therefore, the need to systematically monitor and evaluate leadership practices and their impact on school culture is fundamental. As Cosme et al. (2021) point out, leaders must develop strategies that drive innovation and ensure that all voices in the educational community are heard and valued. However, this is not an innate process, requiring leadership practices that tackle resistance to change and the complexity of curriculum management (Lima, 2020; Morgado and Silva, 2019).

In terms of teaching practices, leaders need to encourage a culture of sharing. This could guarantee what is stated in Recommendation No. 3/2019 of the National Education Council, within the margin of autonomy that leadership has, that teachers have time and space for collaborative work. This scenario implies a reassessment of school organization and the creation of regular moments for collective reflection on action (Schön, 1983). In addition, tools need to be made available to help overcome or minimize bureaucratic and workload demands, which could help achieve more innovative and inclusive teaching practices.

The pressure to fulfill administrative tasks combined with the lack of support from the leadership directly influences teachers' levels of well-being. The obstacles placed in the way of managing teachers' working time jeopardize their ability to focus on implementing diverse and inclusive pedagogical practices rather than bureaucratic tasks. In this sense, the results show that teachers who report greater institutional support, both from colleagues and leadership, cope better with the challenges of the profession (Matos et al., 2022).

In line with the perspective of Dami et al. (2022), teacher well-being is related to teacher satisfaction and student learning. Therefore, the complexity of educational reforms and the increase in teachers' responsibilities may be related to the promotion of stress, compromising innovation and inclusion. Lack of adequate resources and insufficient support from leadership can lead to lower levels of engagement and motivation (Duong et al., 2023), hindering the implementation of innovative pedagogical practices.

With this in mind, leaders face the task of creating conditions that promote teacher well-being, which implies developing policies and actions that strengthen teamwork and collaboration (European Commission/EACEA/Eurydice, 2021). Since, as presented by Matos et al. (2022), the lack of support from leadership implies a sense of isolation for teachers in terms of well-being, creating a support network in the educational context could help reduce this sense of isolation and the emotional exhaustion of teachers. This pathology can lead to teachers facing burnout and not being able to carry out their duties, making it a challenge for leaders. It is therefore important for leaders to implement strategies to combat work overload and offer continuous emotional and professional

support, especially after periods of crisis, such as the COVID-19 pandemic.

The results analyzed show that initial and ongoing teacher training is fundamental to meeting educational challenges, while lifelong professional development, which combines theory and practice, is seen as essential (Northouse, 2018). However, the lack of relevant ongoing training that is appropriate to needs, especially in contexts of rapid change (such as distance learning), has been highlighted as a factor that aggravates teacher stress.

Promoting opportunities for teachers' professional development based on a culture of reflection-action (Schön, 1983) requires an ongoing commitment from leaders to encourage teachers' professional development (Faizuddin et al., 2022). This involves not only technical training but also strengthening pedagogical knowledge and interpersonal relationships, which are essential for building a positive school climate. One opportunity lies in establishing partnerships between schools and universities, based on the recognition that teaching and training are possibilities for the transformation and emancipation of those involved in education (Contreras, 2003; Vieira, 2013).

Promoting teachers' professional development involves strategic planning on the part of the leadership, taking into account a training offer that meets both curricular requirements and emerging ones, such as the use of new technologies. In addition, promoting a collaborative culture (Fullan, 2020), where teachers share experiences and knowledge, can be an opportunity to foster innovation and inclusive teaching practices.

In this context, performance evaluation, when seen as an opportunity for teachers' continuous professional development, can motivate them to improve their teaching practices, increasing their levels of well-being. However, the results show that, in some contexts, performance evaluation can be perceived as a bureaucratic and stress-generating process, especially if it is directly linked to career progression or salary incentives (European Commission/EACEA/Eurydice, 2023).

Leaders face the challenge of implementing a culture of constructive evaluation, based on dialog and the assumptions of a Learning School (Alarcão, 2009), which goes beyond judgment. One opportunity lies in Pedagogical Supervision processes, including in the context of School-University articulation, which could enhance better pedagogical practices (Vale et al., 2024). By making performance evaluation a formative process, that identifies training needs and offers specialized support, leaders can turn evaluation into a tool for promoting well-being and innovation. This process also helps to retain teachers keep them motivated, and to create a more inclusive and innovative school environment.

About the challenges related to promoting a culture of well-being, the recommendations included in the systematic review point to the need for institutional strategies that incorporate teacher well-being into the policies and practices of the educational context. The involvement of the whole community, the relationship between teachers, the co-creation of spaces for self-care, and curricular flexibility are important aspects of building a balanced educational environment (Dreer, 2023). In addition, the promotion of greater autonomy for teachers is seen as a central factor for their well-being and for the innovation of their teaching practices.

It is therefore up to leaders to foster a culture of well-being and autonomy, which includes promoting the active participation of all the actors in the educational community in decision-making (Bao, 2024). This can help increase a sense of belonging and motivation

for innovation. Leaders also need to ensure that teachers have the flexibility to adapt their pedagogical practices according to the needs of each and every student, which is essential for creating an inclusive environment.

5 Conclusion

Creating a context that favors inclusion requires a collaborative approach, the motivation and well-being of teachers, as well as a continuous and collective commitment to reflection and action. Recent educational changes in Portugal offer a margin of autonomy for the construction of pedagogical practices adjusted to the needs of the context but require leaders to assume themselves as active agents in the implementation of changes that prioritize the well-being of all members of the educational community. Promoting an inclusive and innovative school culture presents multifaceted challenges for leaders, whose actions must focus on managing change, and inspiring and mobilizing all those involved. Although these challenges are presented in any style of leadership, we are aware that the design of specific ways to overcome them will depend on the interaction and communication between leaders and the community and decision-making experience (Estanqueiro, 2019).

Based on the systematic review discussed in this article, we recognize that one of the main limitations centers on a certain dependence of the documents analyzed on secondary sources and studies that have already been published. This may not fully reflect the specific realities and challenges of different educational contexts. Bearing in mind that Autonomy and Curricular Flexibility are a recent educational policy in Portugal, it is not yet possible to access longitudinal studies that could provide a more in-depth view of the influence of pedagogical leadership in promoting teacher well-being over time. It should be noted that our intention to gain an in-depth understanding of a specific context - in particular the Portuguese context - is an option that conditions comprehensiveness and generalization.

Overall, the results of the systematic review suggest relevant implications for leadership practices, taking into account the promotion of a school culture. The collective construction of a collaborative environment, concerned with the continuous professional development of teachers, can directly influence levels of teacher well-being and pedagogical practices themselves. However, the implementation of these practices requires an institutional commitment from the pedagogical leadership, taking into account structural issues such as bureaucratization and work overload. To create a truly inclusive and innovative environment, leaders must prioritize, within the margin of autonomy they have, the reduction of administrative tasks, creating conditions that foster collaboration between teachers.

Promoting innovative pedagogical practices, based on mutual support and ongoing training, also requires significant organizational changes. This includes reviewing educational policies at the central and school levels to guarantee time and space for pedagogical reflection, as well as providing tools to help overcome bureaucratic barriers. The implementation of policies that value teacher autonomy and well-being must be accompanied by the promotion of a culture of constructive evaluation, focused on the continuous development of teachers.

On a political level, the results of this study point to the need for policies that recognize the importance of teacher well-being as a key factor in educational success. Similarly, in-service training policies should consider technical, pedagogical, emotional, and relational training, taking into account the challenges of practicing the profession.

With this in mind, public policies should prioritize the co-creation of an inclusive school culture, involving all members of the educational community. This implies bringing leadership closer to the real needs of teachers and students and giving teachers greater autonomy to adapt their teaching practices to the realities of the context.

The systematic review carried out is a starting point for further research, especially in areas that have been little explored, such as the influence of curriculum changes on teachers' mental health and innovation processes. In this context, longitudinal studies that track the effects of leadership practices over time can provide insights into the role of pedagogical leadership in creating collaborative and innovative environments.

Another area that could be explored is the relationship between performance evaluation and teacher well-being, particularly in contexts where the evaluation system is strongly linked to career progression and financial incentives. It may also be relevant to understand how evaluation processes can be tools for professional development and the retention of teachers in schools.

In short, it is essential to recognize that promoting an inclusive and innovative school culture depends on a delicate balance between curricular autonomy, institutional support, and the continuous development of leadership and teachers. Although the challenges are complex, the results of this study indicate that a collaborative approach, centered on the well-being and professional development of teachers, can be a promising way to build a more equitable educational environment. Continued research and adaptation of educational policies will be essential to consolidate these practices and respond to emerging challenges in the global educational landscape.

Author contributions

LL: Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Validation, Visualization, Writing – original draft, Writing – review and editing. AO: Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Validation, Visualization, Writing – original draft, Writing – review and editing. EE: Funding acquisition, Investigation, Project administration, Supervision, Validation, Visualization, Writing – review and editing. RD: Funding acquisition, Investigation, Validation, Visualization, Writing – review and editing.

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Conflict of interest

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

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The authors declare that no Generative AI was used in the creation of this manuscript.

Supplementary material

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Teacher mobilizers: the power of leading learning and mobilizing teacher communities

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Mobilizer teachers are trained and professional teachers who play a strategic role in leading learning and improving the quality of education in schools. Although teacher mobilizers have become a reference point for positive changes in education in Indonesia, their presence is still considered by many to have not contributed to schools. However, there are various different assessments regarding the existence of mobilizer teachers. A number of groups believe that the effectiveness of mobilizer teachers is still low, while others believe that mobilizer teachers have the potential to successfully advance learning in schools. Apart from that, research on mobilizer teachers is still very minimal in Indonesia so it does not provide comprehensive knowledge about the contribution of mobilizer teachers in Indonesia. This research aims to explore the role of mobilizer teachers in leading learning and driving learning communities and their impact on student learning. A qualitative approach was used in this research and a total of 13 teachers were interviewed. The findings of this research indicate that mobilizer teacher leadership is instructional leadership that effectively leads learning and mobilizes the teacher community in the school and region and contributes to student learning.

KEYWORDS

teacher mobilizers, leading learning, mobilizing, teacher, communities

1 Introduction

The impact of COVID-19 that hit Indonesia some time ago has prompted the Indonesian government to take quick steps toward education issues during the covid-19 spread emergency. Education policy in Indonesia during the COVID-19 emergency was carried out by implementing the “Merdeka Belajar” policy. Merdeka Belajar is a program initiated by the Indonesian government as an effort to improve and restore education through independence in learning (Daga, 2021). Freedom in learning means that teachers and students have the freedom to think and express themselves in learning (Ainia, 2020). Freedom to learn as freedom of thought, freedom to innovate, independence and creativity and freedom for happiness (Kurniawan et al., 2020). The existence of independent learning is very relevant to the needs of students and the demands of 21st century education. The essence of independent learning is to place education that frees teachers and schools to interpret the curriculum in learning (Suhartoyo et al., 2020; Widiyono et al., 2021).

Freedom to learn or independence in learning is closely related to the mobilizer teacher. Mobilizing teachers are born from the product of professional teacher education, namely mobilizing teacher education organized by the Indonesian government to produce teachers who are adaptive, innovative, and ready to become leaders of educational transformation with a spirit of self-learning (Kemendikbud, 2021; Heryati et al., 2023). The driving teacher is one of the factors that determine the success of independent learning (Sibagariang et al., 2021; Padilah et al., 2023). Drive teachers are teachers who are the driving force of learning, called

learning leaders in schools (Heryati et al., 2023). Drive teachers is a professional human resource development program of the Indonesian government that aims to improve the capacity and competence of teachers toward a more meaningful learning process for students (Kemendikbud, 2021). Figure 1 explains the growth of driving teachers in Indonesia.

The mobilizer teachers is one of the efforts to realize Indonesia's educational goals, as stated in Law Number 20 of 2003 (Depdiknas, 2008). Mobilizer teachers are professional teachers who play a role in realizing learning that focuses on actively developing students according to their potential (Kemendikbud, 2021), and who focus on students and 21st century learning (Qulsum, 2022). The aim of the presence of mobilizer teachers is to improve education quality and develop the professional competence of 21st century teachers (Heryati et al., 2023). To become a mobilizer teacher must be able to be a practical teacher for other teachers regarding the development of learning at school (Susi et al., 2023). Apart from that, driving teachers must be able to develop student leadership at school (Nisa et al., 2023; Samosir et al., 2023). Able to improve learning quality and become a learning leader at school (Daryanto and Karim, 2017; Tan et al., 2017).

Along with the increasing need for quality education in Indonesia, the number of mobilizing teachers is still very limited, reaching only 405,900 mobilizing teachers out of 5 million teachers in Indonesia. In addition, only 17.02% of schools in Indonesia have a mobilizer teacher (Samsinar et al., 2023; Umbroh et al., 2023). The effectiveness of mobilizing teachers is still in doubt, as the number of mobilizing teachers available is not proportional to the needs in schools and it is impossible to realize the expected educational goals (Koesoema, 2023; Amelia et al., 2023; Wuryaningsih, 2023). Lead teachers have not been able to move out of their old mindset or comfort zone (Arviansyah and Shagena, 2022). The performance of teacher activists in schools is not good enough to create more effective learning (Masau and Arismunandar, 2024). A number of studies explain that mobilizer teacher has had a positive impact on teacher and school development (Kemendikbud, 2021). Research on mobilizer teachers is very minimal and is still limited in explaining their contribution to schools (Heryati et al., 2023).

Although the mobilizing teacher has become a reference for positive change in education in Indonesia, the question of how far the mobilizing teacher has become a figure of change and what benefits are felt by many parties, especially students and fellow teachers, is an aspect that needs to be questioned and studied. Through this research, we try to complement the findings of previous research through an in-depth study of the role of teacher mobilizers in leading learning and driving learning communities and their impact on students and other teachers in schools, thus providing knowledge about their existence in advancing education in schools. In addition, this study contributes to the development of theories and models of the lead teacher relationship and its impact, thus providing new insights into the development of human resources in schools to achieve educational goals.

1.1 Question for research

Based on the above description, this study aims to explore the role of the mobilizing teacher, the pattern of relationships and their impact. The research questions are as follows: (1) how does the role of the mobilizing teacher lead learning and mobilize the learning community?, (2) what is the impact of the mobilizing teacher on student learning?

1.2 Objectives

This research aims to explore the role of teacher mobilizers in leading learning and mobilizing learning communities and their impact on student learning.

2 Literature review

A mobilizing teacher (MT) or learning leader in the concept of education is a teacher who has an active role in leading, inspiring,



motivating and mobilizing students and other teachers. Teachers who act as learning leaders who encourage the growth and development of learners holistically, actively and proactively in helping to develop other educators to implement learner-centered learning and can be role models and agents of educational change to realize the profile of Pancasila learners. [Kemendikbud \(2021\)](#) explains that a mobilizing teacher is a learning leader who implements independent learning and mobilizes the entire education ecosystem to realize learner-centered education, mobilizes a learning community for teachers in schools and in the region, develops a learner leadership program to realize the learner profile of Pancasila. In a broad sense, the mobilizing teacher is an agent of transformation that drives the education ecosystem in schools ([Anggara et al., 2023](#); [Tahajuddin et al., 2023](#)). Mobilizer teacher in this study is defined as a teacher whose role is to lead learning and drive other teachers to develop student-centered learning.

A mobilizing teachers are trained teacher, the product of the mobilizer teacher education program. As a change agent in a program pioneered by the education world and used as a key to the success of education curriculum, infrastructure and technology in Indonesia ([Hayu et al., 2024](#)). As a mobilizer teacher, of course, it is different from other teachers in general. Mobilizer teacher is a motivator in improving students' academic performance, has leadership and character. Mobilizer teacher acts as a mentor to other teachers in learning freedom ([Sibagariang et al., 2021](#)). Freedom of learning is learning that respects the uniqueness, needs, interests, talents and potential of each student. Merdeka belajar (freedom of learning) is learning that provides flexibility and freedom for teachers in designing contextual and meaningful learning in accordance with the standards of the Pancasila learner profile, namely faith, devotion to God Almighty and noble character, creativity, mutual cooperation, global diversity, critical reasoning and independence. The mobilizing teacher in freedom of learning is a teacher who is able to lead and make changes in learning, has an example, is always in favor of students and is able to develop himself and collaborate with other teachers to improve the quality of education ([Heryati et al., 2023](#)).

Mobilizer teachers are characterized by the ability to develop themselves and other teachers through independent reflection, sharing and collaboration ([Mulyasa, 2022](#)); have the moral, emotional and spiritual maturity to behave according to a code of ethics ([Kusumah and Alawiyah, 2022](#)); able to plan, implement, reflect and evaluate student-centered learning by involving parents ([Subekti, 2022](#); [Widyastuti, 2022](#)); collaborate with parents and the community to develop the school and foster student leadership ([Levin and Marcus, 2010](#); [Tahajuddin et al., 2023](#)); and develop and lead efforts to realize the school's vision in favour of students and relevant to the needs of the community around the school ([Umboh et al., 2023](#)). The mobilizer teacher is responsible for helping students develop sustainable skills, such as innovative, creative and critical skills. Able to design creative and innovative learning strategies, facilitate discussions and interactions that inspire students and other teachers, able to create a comfortable school environment for students by paying attention to all aspects of learning that support students ([Mansyur and Bunyamin, 2021](#)).

The characteristics of a mobilizer teacher include (1) being student-centered, (2) planning, implementing, reflecting and evaluating learning, (3) collaborating with parents and the community, (4) developing and leading efforts to realize the school's vision, (5) having moral, emotional and spiritual maturity ([Atmojo et al., 2021](#);

[Elia et al., 2023](#); [Suyamti et al., 2024](#)). This category of leadership has 4 competencies, namely leading efforts to develop a student-centered learning environment, leading the planning and implementation of student-centered learning processes, leading reflection and improvement of the quality of student-centered learning processes and involving parents or guardians as learning partners and resources at school ([Oqvist and Malmstrom, 2016](#); [Rahayuningsih and Rijianto, 2022](#); [Riowati and Yoenanto, 2022](#); [Elia et al., 2023](#)). Effective mobilizer teacher are able to develop student academic and school effectiveness, namely (1) achievement of learning completeness, (2) effectiveness of student activities, (3) positive student responses to learning ([Tuasikal et al., 2021](#)). Learning effectiveness can be seen from student development, including: (1) effective student communication, (2) mastery and enthusiasm for learning materials, (3) positive student attitudes, (4) flexibility in learning, and (5) good student learning outcomes. According to [Fairhurst and Fairhurst \(2011\)](#) effective learning is a combination of human, material, facilities, equipment and procedures directed at changing student behavior in a positive and better direction in accordance with the potential and differences of students to achieve predetermined learning objectives. Indicators of learning effectiveness (1) high presentation of student learning time devoted to learning, (2) high average on-task behavior among students, (3) accuracy between teaching materials and student abilities, (4) developing an intimate and positive learning atmosphere, developing a supportive classroom structure ([Shawer, 2011](#); [Henderson, 2021](#); [Warren, 2021](#); [Lubis et al., 2023](#)). The effectiveness of student learning is seen from: (1) effective student communication, (2) mastery and enthusiasm for learning materials, (3) positive student attitudes, (4) flexibility in learning, and (5) good student learning outcomes ([Gage et al., 2012](#)). The mobilizer teacher plays an effective role in: (1) mobilizing a learning community for co-teachers in the school and in the region, (2) becoming a practice teacher for other co-teachers related to learning development, (3) encouraging increased student leadership, (4) improving the quality of learning activities, (5) opening spaces for collaboration between teachers and stakeholders, and (6) encouraging the well-being of the education ecosystem in schools ([Daga, 2021](#); [Sibagariang et al., 2021](#); [Riowati and Yoenanto, 2022](#)).

Mobilizer teachers have an important role in the transformation of education in schools, namely being a model in running freedom of learning programs, moving the school ecosystem so that they are able to stimulate other fellow teachers through discussion forums to collaborate with each other in learning ([Lubis et al., 2023](#); [Sirait et al., 2023](#)). Creating a conducive learning environment and being a good example and motivator for students and other teachers ([Yusuf and Pattisahusiwa, 2020](#); [Mingkid et al., 2022](#); [Xu et al., 2022](#)). Creating the best possible teaching and learning environment situations and conditions ([Hanewicz et al., 2017](#)), where the teaching and learning process is enjoyable and increases students' ability to pay attention to lessons and master the educational goals they must achieve ([Harrison and Killion, 2007](#); [Hoidn and Klemenčič, 2021](#)). The role as a learning leader is to inspire enthusiasm, hope, and enthusiasm in interactions with individuals under his influence, both in the classroom, school, and in society ([Tran and Nghia, 2020](#); [Heli, 2021](#)). Similar to Ki Hadjar Dewantara's philosophy that teachers must be role models, role models and learning leaders ([Samosir et al., 2023](#)). As leaders, they empower and encourage other people to have the strength, ability and enthusiasm to improve their own quality ([Yufita and Sihotang, 2020](#);

Zakariya and Adegoke, 2024). Becoming a learning leader means paying deliberate attention to all components of learning, such as curriculum, teaching and learning processes, authentic reflection and assessment, developing teachers, empowerment and involvement of the teacher community (Elia et al., 2023; Samsinar et al., 2023). Mobilizer teachers act as drivers of change in the teacher community at school and in their region, this means that driving teachers actively participate in creating a learning community for other fellow teachers through discussion space, exchange of ideas, experiences and best practices in education (Hendrayani et al., 2024). The role as a driver of collaboration is of course quite closely related to mobilizing a community of practitioners in schools (Greenlee, 2007), and collaboration with all school stakeholders (Ramirez and Allison, 2022).

Leadership is the most important aspect that every teacher must possess and develop. Teacher leadership is the behavior of teachers to influence students to be motivated to learn and develop. The typical leadership behavior that mobilizer teacher have in many school practices is instructional leadership. Instructional leadership is the behavior of a motivating teacher who focuses on achieving student learning and pays close attention to activities directly related to student development (Mastur, 2023). Leadership that carries the task of developing and communicating learning objectives, setting learning standards, coordinating the curriculum, supervising and evaluating learning, expanding students' opportunities to learn and helping to improve the professionalism of other teachers (Elfira et al., 2024; Hariyati et al., 2023). Mobilizer teacher leadership includes teacher behavior in formulating and communicating learning objectives, monitoring and providing feedback in learning, building a conducive learning climate and facilitating collaboration in learning. Mobilizer teacher behavior that emphasizes excellent service in learning and building learning communities in schools (Raihani and Maulana, 2024). The research findings also explain that the leadership of mobilizer teachers is able to move the entire educational ecosystem in realizing student-centered education. An effective mobilizing teacher is a driving teacher who is able to manage all the school's resources, such as human resources, social conditions, facilities and infrastructure, natural environment, finances, politics, religion and culture in harmony with national education standards (Kjelsrud, 2019; Riowati and Yoenanto, 2022; Nurlaeli et al., 2023). Teachers as effective learning leaders are teachers who are able to manage learning well so that they are able to realize learning that is pro-student (Bolkan and Goodboy, 2009; Araghieh et al., 2011; Kumar and Kumar, 2023). Mobilizer teachers are very effective as coaches for colleagues and are able to carry out other roles (Oqvist and Malmstrom, 2016; Rahayuningsih and Rijianto, 2022; Riowati and Yoenanto, 2022; Elia et al., 2023).

Freedom to learn will be achieved effectively if teachers synergize and collaborate with each other in a community of practitioners. A community of practitioners is a group of individuals who share the same passion and anxiety about their practice and want to do it better by interacting on a regular basis (Wenger, 2000). Practitioner communities are a complementary strategy for sustainable professional development. Practice in a community of practitioners can include teaching practice and interacting with students or parents (Suyamti et al., 2024). Through the teacher community, of course it will encourage collaboration between school members in realizing student leadership through programed activities (Firmansyah et al., 2024). The concept of a community of practitioners has been widely

applied by various professions and is also important for the main actors in education, namely teachers, principals and school supervisor (Jannati et al., 2023).

In order for a community of practitioners to run sustainably, driving teachers need to foster a collaborative learning culture or professional learning community with fellow teachers in their school and region. This learning community is a vehicle for teachers' professional encounters. Susi et al. (2023) in their research concluded that the practitioner community allows academic dialogue, professional conversations, planning strategies, collaborative technical discussions regarding efforts to improve the quality of learning and produces learning innovations (new ways or new perspectives) that have a positive impact. Its impact on student learning outcomes. Effective collaboration fosters professional learning communities and produces best practices in learning (Webb, 2010). Mobilizer teachers in the practitioner community share best practices and encourage teachers to be more creative and innovative so that learning practices in the classroom become better (Samsuddin et al., 2023). Through this role as a trainer, the driving teacher guides and helps his colleagues to develop and examine their own learning processes (Hendrayani et al., 2024). If the mobilizer teacher does this, it will create more good practices that can be disseminated in the community and can later become learning material for colleagues and for the benefit of the teacher himself. To become an effective mobilizer teacher, teachers must start to move from themselves and also move for other teachers by building a community so that they contribute to themselves and others.

3 Research methods

This research is a qualitative case study approach that aims to explore and describe the role of teacher mobilizers in leading learning and mobilizing teacher communities in schools or regions. Qualitative method is a research method to investigate, describe and discover the object or phenomenon under study in depth (Maxwell, 2013).

3.1 Participants

In this study, 13 teachers were purposively selected as research participants, namely 8 mobilizer teachers and 5 non-mobilizer teachers in a State Senior High School in Medan city, North Sumatra Province, Indonesia. A mobilizing teacher is a teacher whose role is to lead learning and mobilise the teacher community in the school. The regular teacher is a partner teacher of the mobilizer teacher. Table 1 presents the demographics of the research participants.

Qualitative research generally uses a small sample size, the number of participants in qualitative research is usually 5–10 people, or can increase until there is repetition of information from participants (Martha and Kresno, 2016; Sun et al., 2020).

3.2 Data collection and Prosedur

The research data was collected using interview techniques. Interviews are conducted by asking a number of in-depth questions to research participants in order to obtain information for research

TABLE 1 Demographics of research participants.

Participants (code)	School	Gender (N)		
		Male	Female	N
Mobilizer teacher (MT)	Public high school A	2	3	5
	Public high school B	1	2	3
Regular teacher (RT)	Public high school A	2	1	3
	Public high school B	1	1	2
N		3	7	13

purposes by means of direct face-to-face and question and answer. Interviews were conducted individually with in-depth questions with the aim of obtaining complete, accurate and orientated information. In-depth interview is an open-ended interview method that aims to explore information in depth (Thomas and Harden, 2008; Denzin and Lincoln, 2018). In-depth interviews where researchers explore information in depth by being directly involved in the lives of informants and asking questions freely using or without a question guide so that the atmosphere is lively and carried out many times (Maxwell, 2013).

3.3 Data analysis

The purpose of analyzing this research data is to process research data to produce valid interpretations in a qualitative way. Data analysis is carried out interactively, carried out continuously until completion so that the data is saturated (Miles et al., 2014). Carrying out data analysis in qualitative research is a systematic process of searching and collecting data obtained from interviews, field notes and other materials, so that it can be understood easily and the findings can be informed to others (Maxwell, 2013). Data analysis is carried out by organizing data, describing it into units, synthesizing it, arranging it into patterns, choosing what is important to study, and making conclusions (Miles et al., 2014; Denzin and Lincoln, 2018). The following are the stages of research data analysis:

1. Data collection. The data collection process was carried out from research preparation to conducting interviews. During preparation, the researcher began collecting information about mobilizer teachers in state high schools who met the criteria to become research participants. After all participants were verified, the researcher began collecting data through an interview process. In this research, researchers conducted interviews in two stages, namely the interview stage for all participants (discussion group forum) and the individual interview stage to obtain more in-depth information.
2. Data condensation. The interview data that has been collected is then selected, summarized and transformed into all parts of the field notes and interview transcripts. Combine interview data and summarize it into one continuous sentence to facilitate analysis of each finding and discussion.

3. Data display. Presenting data in the form of short descriptions or interview notes and coding the data to organize the data, making it easier to conclude the data. The presentation of research data refers to the problem formulation that has been formulated as a research statement, so that the narrative presented is a detailed description of the conditions to tell and answer each existing problem.
4. Conclusion or verification. After the data has been reduced and organized, the researcher makes conclusions that are supported by strong evidence at the data collection stage. The conclusion is the answer to the problem formulation and questions that have been expressed by researchers from the start (Miles et al., 2014).

4 Results and discussion

The results of this study are the results of data analysis obtained from interviews with 13 respondents related to mobilizing teachers who focus on: (1) the role of mobilizing teachers in leading learning and mobilizing communities, (2) the impact of mobilizing teachers on student learning. The research findings explain that the mobilizer teacher leadership is student-centered instructional leadership and peer development. They encourage students' proactive development, lead student learning in the classroom and mentor other teachers and set an example for students. They have an in-depth understanding of learning issues and know how to solve problems. To facilitate data analysis and organization, the interviews were coded, e.g., MT-1 (mobilizer teacher-1), MT-2 (mobilizer teacher-2), or RT-1 (regular teacher-1) and so on. The following is an explanation of the themes of this research finding.

4.1 The role of leading learning

Mobilizer teachers have the role of leading learning. They develop creative and innovative student-centered learning, motivate and nurture students' knowledge and character to achieve the Pancasila learner profile and collaborate with other teachers to generate good practice in learning. Here are some examples of the results of interviews with participants.

“...There are so many positive things that we have done as teacher leaders and how to lead students in the classroom...we play a role in developing learning and collaborative learning with teachers and students...”(MT-1).

“...Discussing in class with students is the best way to determine interesting learning materials, appropriate learning strategies and learning obstacles faced by them...” (MT-3).

“...Supporting teachers' capabilities through mentoring and training is very important for us to improve their performance by collaborating in problem solving and accommodating their learning needs and supportive environment...” (MT-5).

The participants' opinions (we take MT-1, MT-3 and MT-5 as examples) above explain that they have a way of leading student-centered learning, and they develop and implement learning together

with teachers and students in the classroom. They have an understanding that the task of teaching is not static, but dynamic. In leading learning, they also develop themselves, keep moving, and are open to innovation. The findings of this study have identified five characteristics and roles in leading learning, namely: (1) managing curriculum and learning, (2) mentoring and training other teachers, (3) building collaboration, (4) creating a conducive learning environment, and (5) focusing on student learning. The following is a description of each theme of this research finding.

4.1.1 Managing curriculum and learning

Respondents believe that teachers' ability to manage curriculum and learning is an important factor in their success, and that creative and innovative efforts are needed to develop student-centered curriculum and learning. The ability to manage curriculum and learning is an important factor for teacher leaders in carrying out the mission of student-centered learning. They are actively involved in planning, implementing and evaluating the learning process according to the standards and competencies set out in the curriculum. The driving teacher understands the subject matter deeply and flexibly so as to help students create useful cognitive maps, connect ideas to each other and overcome misconceptions. The driving teacher encourages student-centered learning that allows students to share in decisions, believe in their capacity to lead, and remember what it is like to learn. The following interview results explain:

"...Mobiliser teachers must be able to manage curriculum and learning, this includes aspects of planning, organising, implementing, directing, as well as assessing and evaluating and requires creative and innovative efforts in developing the curriculum..." (MT-4).

MT-4 explained that mobilizer teacher must be professional in curriculum and learning management, such as being able to develop the curriculum, create effective learning, consistent assessment and reflection. Conduct differentiated learning and create learning that suits students' needs. Teachers are learning leaders who implement curriculum and learning according to content and process standards. Teachers are required to understand the curriculum and teaching (Araghieh et al., 2011). The role of teachers in curriculum and learning is crucial to the achievement of educational goals (Shawer, 2011; Vogt et al., 2016; Bas and Senturk, 2019). Teachers are an important factor in curriculum implementation because he is a curriculum implementer (Firmansyah et al., 2024). Teachers are required to have abilities to manage and implement it because without it the curriculum will be meaningless as an educational tool (Arviansyah and Shagena, 2022).

4.1.2 Train other teachers

Mobilizer teachers train other teachers in developing student-centered learning. They volunteer to provide individual and group support and guidance to other teachers. They are practical trainers in training activities, seminars and workshops organized by the school and community. Their leadership is evident in their behavior of supporting and fostering teacher development in the school.

"...Being a peer coach is challenging for student-centred learning, willing to coach and provide support to other teachers who need ideas and advice..." (MT-4).

This is in line with the expert opinion that teacher leadership is a teacher's ability to influence, guide and train students and other teachers so that they want to make something for the achievement of learning goals (Galey, 2016; Saclarides and Munson, 2021). The learning process requires skill training, both intellectual and motor, which requires the teacher to act as a trainer (Manizar, 2015; Mingkid et al., 2022). The role of the driving teacher as an effective trainer develops the abilities of other fellow teachers as well as improving teaching skills, the application of technology in learning, and curriculum development in schools (Bas and Senturk, 2019; Ainia, 2020; Amelia et al., 2023).

4.1.3 Building collaboration

Teacher leadership is about mobilizing individuals and groups to achieve a common goal. Despite the challenges in their existence, participants argued that they continue to exist to motivate and mobilise co-operation among teachers for more effective student learning and sharing of good practices. They also understand that maximum achievement in education can only be achieved through teamwork. Through the discussion space as a place to exchange ideas and share information within the teacher community at school, it impacts on the sustainable learning environment and contributes greatly to teacher and community development. The following interview results illustrate this situation:

"...there are always obstacles in building collaboration with teachers, but obstacles can always be overcome, ... trying to involve and with teachers to actively discuss and dialogue in solving student-oriented learning problems and practice the best ways in the classroom with other teachers and the community of practitioners..." (MT-5).

Lead teachers play a role in building collaborations that encourage fellow educators to implement student-centered learning methods (Adiansha and Ulfariani, 2022; Nurlaeli et al., 2023; Firmansyah et al., 2024). Teachers collaborate with fellow teachers and the community to produce work or achieve a common goal (Hendrayani et al., 2024). Collaboration is the means and the key to success for teachers in carrying out independent teaching, competence and career development (Levin and Marcus, 2010).

4.1.4 Creating a conducive learning environment

The leadership of a lead teacher is one that facilitates a conducive learning environment. According to respondents, it is the responsibility of the lead teacher to ensure that the school is a safe, inclusive and supportive place for all students to learn. They also provide support to guide students, facilitate active learning and create a conducive learning environment. This includes their attention to providing adequate facilities, a comfortable classroom atmosphere and good relationships with parents. A conducive learning environment encourages students to be more active and enthusiastic in learning (Yusuf and Pattisahusiwa, 2020). A conducive learning environment is an important factor in successful teaching and learning (Xu et al., 2022). A conducive learning environment, where students feel comfortable and motivated to learn, while teachers have adequate support to provide guidance to students (Antaza, 2020; Kumar and Kumar, 2023).

4.1.5 Student-focused

Master teachers do not only focus on teacher or community learning, but also prioritize student-focused learning. They encourage students to actively participate in the learning process, motivate student learning, and design creative and innovative learning strategies as well as reflect on learning to monitor student progress. They argue that to achieve the success of the Pancasila learner profile, a change in classroom learning is needed that optimizes learner learning outcomes, learning experiences that suit the level of ability, interests, and learning styles of learners that allow each learner to access subject matter and develop according to their personal needs, and encourage increased learner independence and leadership. The impact of this process makes students feel comfortable in learning, there is an increase in knowledge and problem-solving skills. A student focus ensures that all students in all their diversity have their learning needs met (Hanewicz et al., 2017). Effective learning must be designed to be student-centered to be successful for all students (Hoidn and Klemenčič, 2021; Komatsu et al., 2021). Effective teachers are teachers who manage and master learning well, motivate student engagement, collaborate in learning with other teachers (Lubis et al., 2023; Sirait et al., 2023). Effective learning is a teaching and learning activity that is able to produce student knowledge and skills through the process of student involvement and participation in solving problems through discovery, flexible learning and fun (Harrison and Killion, 2007). Table 2 summarizes the findings from the interview data analysis “leading the learning.”

Table 2 provides evidence of five teacher leaders in leading learning that impact the school community, including (1) produce prototype curriculum and learning materials, all competencies required by students are achieved, generate best practice in learning, (2) teacher self-development, teachers’ teaching capacity and quality, (3) productivity of group members, (4) student well-being, student learning satisfaction, and effective learning, (5) student learning motivation, and student character.

4.2 Practitioner community mobilizer

Communities of practice are learning platforms between teachers in each school or outside the school environment aimed at sharing good practices and supporting competency improvement including in the implementation of an independent curriculum. All participants explained that the lead teacher plays an active role in mobilizing the community of practice through collaboration and cooperation between school members to realize student learning outcomes. Educate through information exchange, best practices in learning, developing creative and innovative learning and creating a safe and conducive learning environment.

The following is evidence from an interview with one of the driving teachers:

“...I mobilise the community of practice through discussions among teachers to discuss good practices and new knowledge, and facilitate effective learning in the form of in-house training, so that all information and knowledge about independent learning can be improved by members of the community of practice, so that they

can mobilise other teacher communities in their respective schools...” (MT-5)

Furthermore, two ordinary teachers explained the role and impact of mobilisher teacher:

“...Mobiliser teachers, developing the latest approaches in student-centred learning and collaborating in classroom practice with me...” (RT-2).

“...for me, being involved in the practitioner discussion community has been very positive for my professional development, the impact of the mobilising teacher on the community has encouraged and mobilised me to implement good practices in the classroom (RT-3).

Mobilizer teachers (MT-5) illustrate that they not only drive their own development, but also endeavor to help the development of their colleagues in the school and other teacher communities outside the school. They share experiences and knowledge to strengthen discussion communities, such as subject teachers “meetings and teachers” working groups to solve problems together. RT-2 and RT-3’s explanations illustrate how the existence of a mentor teacher for them and its impact on professional development. Table 3 summarizes the findings from the interview data analysis “mobilizing communities of practice.”

Based on Table 3, the findings of this research show five existences of the role of mobilizing the community, namely (1) educate, (2) train community members, (3) empower, (4) initiate, (5) building a positive culture. Educate through sharing knowledge, up-to-date information and good practices to the community of practitioners, assisting other teachers in classroom practices to improve learning performance. Train by assisting the development of ideas, innovations and facilitating effective learning. Empower each member to engage in discussions and shared decision-making within the community. Initiate the development of professional attitudes and beliefs, and encourage new approaches to learning practices. Build a shared culture and values by encouraging members to spread achievements through discussion, sharing and integrating learning with daily work. These five existences directly impact community members, namely (1) the existence of common ground on matters to be resolved together by community members, (2) the existence of social norms or rules agreed upon by members, and (3) the existence of practices or knowledge developed, shared and maintained as a result of community activities. The teaching community always updates its knowledge and skills in accordance with the latest developments in education, which in turn will improve the quality of learning (Ramirez and Allison, 2022). Teacher professional development through community and co-operation among teachers with the aim of student learning (Greenlee, 2007). Effective teachers are oriented toward student learning and cooperative relationships in learning (Oqvist and Malmstrom, 2016; Warren, 2021).

4.3 Relationship patterns and impact

The existence of teacher mobilizers in schools has provided benefits and positive impacts for teachers and the school community. This proves that teacher mobilizers have positive contributions, including (1) achieving a learning community for other teachers, (2)

TABLE 2 Summary of findings on leading the learning.

Source of information	Theme	Characteristics of "leading the learning"	Impact
MT-1, MT-2, MT-3, MT 6 and MT-8; RT-1, RT-2, and RT-3	Managing curriculum and learning	<ul style="list-style-type: none"> • Planning, organizing, implementing and evaluating learning • Organize resources to enrich curriculum and learning materials • Helps students to understand and receive learning materials • Managing learning and the classroom • Encourage teacher engagement to develop curriculum and learning 	Produce prototype curriculum and learning materials All competencies required by students are achieved Generate best practice in learning
MT-1, MT-2, MT-3, MT-4, MT-5 and MT-7; RT-1, RT-3, RT-4 and RT-5	Training teachers	<ul style="list-style-type: none"> • Become a practical tutor for fellow teachers • Mentoring fellow teachers in professional development • Provide support and feedback • Building teacher growth 	Teacher self-development Teachers' teaching capacity and quality
MT-2, MT-3, MT-4, MT-5 and MT-8 RT-1, RT-2, RT-4, RT-5	Building collaboration	<ul style="list-style-type: none"> • Mobilize a learning community for fellow teachers at school and in the region • Open space for discussion, collaboration between teachers and stakeholders to improve learning quality • Merangkul pasrtisipasi pemangku kepentingan • Creating a learning environment for students, teachers and the community 	Productivity of group members Shared trust and commitment
MT-1, MT-2, MT-4, MT-5, MT-6, MT-7 and MT-8 RT-1, RT-2, RT-3, and RT-5	Creating a conducive learning environment	<ul style="list-style-type: none"> • Promotes order and discipline • Motivate and reward student achievement • Build positive communication in the school community • Organizing the classroom and school environment • Creating equal learning rights and equity for all students 	Student well-being Student learning satisfaction Effective learning
MT-1, MT-2, MT-3, MT-4, MT-5, MT-6, MT-7 & MT-8 RT-1, RT-2, RT-3, RT-4 and RT-5	Student-focused	<ul style="list-style-type: none"> • Realizing meaningful learning • Making the most of class time • Present in a variety of ways that fulfill learners • Increase learner engagement • Monitoring and assessing learners' learning progress • Designing learning opportunities for students to apply their learning experiences • Reflecting and setting high expectations 	Student learning motivation Student character

improving the leadership of students and other teachers, (3) professional development of other teachers and the community, (4) building cooperation between teachers and stakeholders inside and outside the school, and (5) becoming educational leaders who spur the welfare of the educational ecosystem in schools. [Figure 2](#) visually explains the pattern of relationships between the leadership role of the mobilizing teacher in leading learning and community mobilization that results in the willingness of community members (both individuals and groups) to jointly create a pancasila learner profile. This willingness to follow is identified with the values of independence, collaborative, reflective, innovative and student-centered.

The impact of mobilizing teachers on learning is to improve the teaching performance of teachers in schools in designing and implementing learner-centered learning, developing learning

innovations, increasing the potential and character of students in accordance with the Pancasila learner profile ([Adiansha and Ulfariani, 2022](#)). Effective teachers focus on student teaching, develop variation techniques, clarify teaching objectives, build teaching collaborations and result in better classroom management and effective student learning ([Zeichner, 2007](#); [Lovett, 2023](#)). Effective learning leadership is a leader who can realize learners' sense of comfort and happiness when they are in their school environment ([Yufita and Sihotang, 2020](#); [Tran and Nghia, 2020](#); [Samsuddin et al., 2023](#)). Learning leaders create a conducive learning environment with the aim that students find it easier to learn so that they can achieve better achievements ([Heli, 2021](#)). Learning leaders can foster a professional culture and have an impact on the effectiveness of student learning outcomes ([Singh, 2024](#)). Learning leaders have a willingness to express uncertainty by

TABLE 3 Summary of findings on mobilizing communities of practice: “themes, characteristics and impacts.”

Source of information	Theme	Characteristics of “mobilizing the community”	Impact
MT-1, MT-2, MT-3, MT-4, MT-5, MT-6, MT-7 and MT-8 RT-1, RT-2, RT-3, RT-4 and RT-5	Educate	<ul style="list-style-type: none"> Share knowledge, current information and good practice with the practitioner community Accompany other teachers to initiate and maintain quality classroom practice Developing potential, opportunities for growth to improve learning performance 	The existence of common ground on matters to be resolved together by community members
MT-1, MT-2, MT-3, MT-4, MT-5, MT-6, MT-7 and MT-8 RT-1, RT-3, RT-4 and RT-5	Train community members	<ul style="list-style-type: none"> Help develop ideas, innovations and facilitate the creation of new learning methods Provide training and feedback to fellow teachers and the community Mentoring community members to initiate and sustain their learning 	The existence of social norms or rules agreed upon by members
MT-1, MT-2, MT-3, MT-4, MT-5, MT-6, MT-7 and MT-8 RT-1, RT-2, RT-3, RT-4 and RT-5	Empower	<ul style="list-style-type: none"> Support interaction and collaboration in the community Open a space for open discussion in the community Encourage the involvement of community members Develop professional attitudes and beliefs 	
MT-1, MT-2, MT-3, MT-4, MT-5, MT-6, MT-7 and MT-8 RT-1, RT-2, RT-3, RT-4 and RT-5	Initiate	<ul style="list-style-type: none"> Encourage diverse new approaches to learning practice Communicating and giving examples of good practice Encourage self-improvement as a learner 	The existence of practices or knowledge that are developed, shared and maintained as a result of the activities of the community of practitioners
MT-1, MT-2, MT-3, MT-4, MT-5, MT-6, MT-7 and MT-8 RT-1, RT-2, RT-3, RT-4 and RT-5	Building a positive culture	<ul style="list-style-type: none"> Membangun nilai-nilai bersama. Building positive relationships Providing reflection and feedback in community activities Encourage members to disseminate member achievements through discussion and sharing Integrate lessons learnt with daily work 	

bringing clear educational goals, empowering and facilitating professional development and supporting change in education (Butler and Hoppey, 2023; Zakariya and Adegoke, 2024).

5 Conclusion

Mobilizer teachers are learning catalysts in freedom of learning. Mobilizer teachers as learning leaders are able to encourage the transformation of the school ecosystem to realize the Pancasila student profile. They focus on student learning, encourage students to actively participate in the learning process, motivate student learning and design creative and innovative learning strategies as well as carry out learning reflection to monitor student progress. They mobilize all fellow teachers to understand school, think critically, creatively and innovatively to explore new things in learning. Mobilizer teachers as learning leaders are able to apply the concept of freedom of learning. As holistic learning leaders, they are active and proactive in encouraging the growth of students' character and learning outcomes. The mobilizing teacher is the pioneer of student-centered learning. As a learning leader, they effectively drive student-centered learning by (1) managing curriculum and learning, (2) mentoring and training other teachers, (3) building collaboration, (4) creating a conducive learning environment, and (5) focusing on student learning. Mobilizing the teacher community by (1) educating, (2) training community members, (3) empowering, (4) initiating, (5) building a positive culture. The role of leading learning and mobilizing the

community impacts on followers' willingness and learning effectiveness. This shows that the lead teacher as a learning leader holistically, actively and proactively promotes the growth of learners' character and learning outcomes and encourages other teachers to develop student-centered learning resulting in learning effectiveness.

Data availability statement

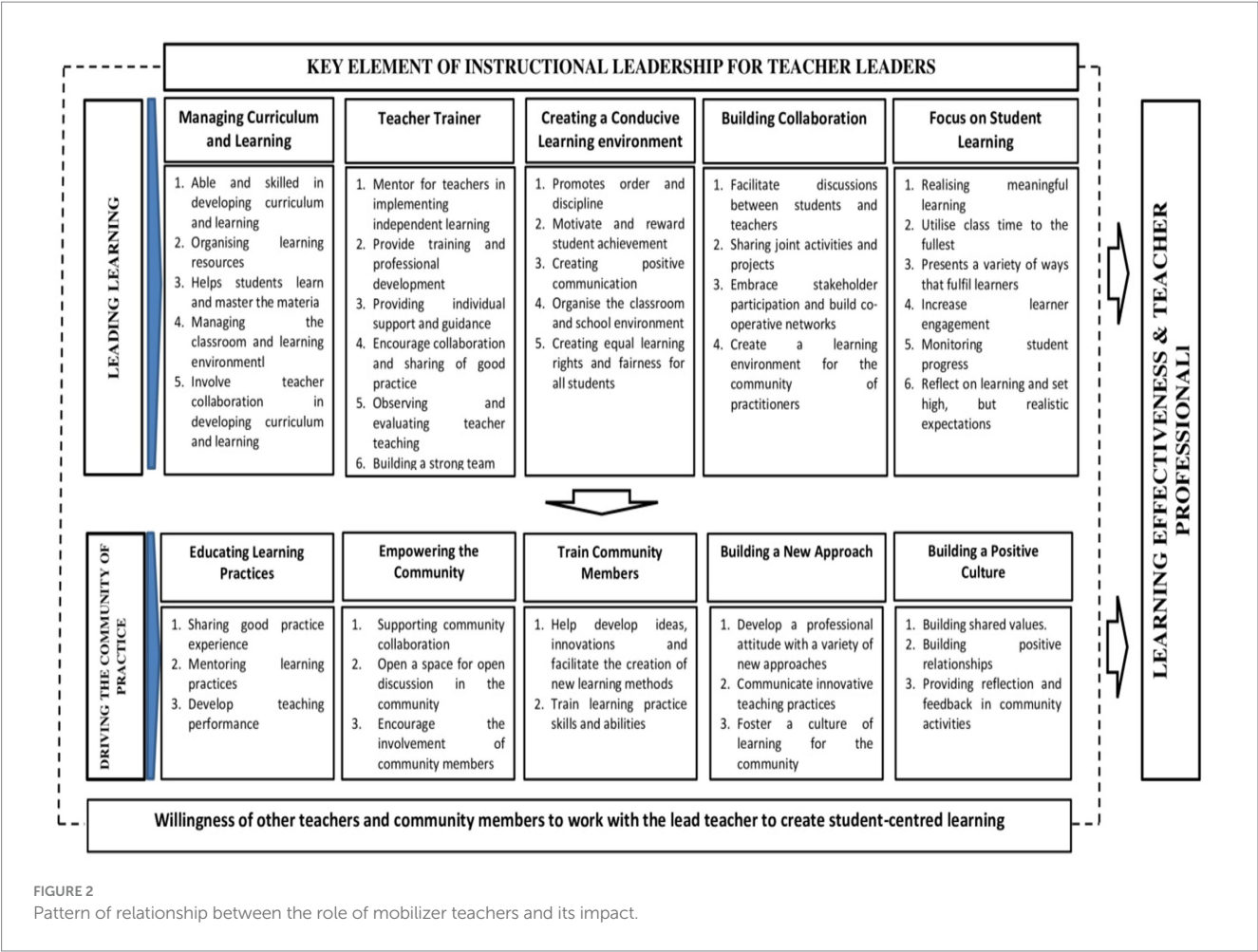
The datasets presented in this article are not readily available because participants did not consent to share data and sharing of data was not provided as part of the ethical approval. Requests to access the datasets should be directed to indraprasetya@umsu.ac.id.

Ethics statement

This human research has been approved by the Provincial Education Office of North Sumatra, Indonesia and has fulfilled applicable laws and institutional requirements. Written consent for participation in this study is not required from participants.

Author contributions

IP: Conceptualization, Formal analysis, Investigation, Methodology, Resources, Writing – original draft, Writing – review & editing. SP: Data



curation, Formal analysis, Methodology, Resources, Writing – original draft. RH: Data curation, Formal analysis, Resources, Writing – review & editing. TS: Formal analysis, Resources, Writing – review & editing. AN: Data curation, Formal analysis, Writing – review & editing.

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Conflict of interest

The authors have declared that this study has no conflicts of interest, no commercial or financial relationships that could be construed as a conflict of interest.

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Blurred boundaries: exploring the influence of work-life and life-work conflicts on university teachers' health, work results, and willingness to teleworking

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COVID-19 lockdowns forced organizations to rapidly shift from face-to-face interactions to online platforms, leading to unforeseen challenges. This study retrospectively examines the extreme conditions of teleworking, which blurred the boundaries between home and workspaces, providing a unique opportunity to assess perceptions of work-life and life-work conflicts and their consequences. Data were collected from university teachers through an anonymous online survey ($N = 383$). A path analysis using IBM SPSS AMOS software assessed the relationship between work-life and life-work conflicts, burnout, performance, and willingness to continue teleworking. Results suggest work-life and life-work conflicts produce different spillovers. Both conflicts significantly contributed to burnout, but only life-work conflict significantly related to perceived performance, and this relationship was negative. Burnout was negatively associated with perceived performance but had no significant relationship with willingness to continue teleworking after lockdowns. Conversely, the relationship between perceived performance and willingness to continue teleworking was significantly positive. These findings emphasize the interplay between work-life and life-work conflicts and their effects on workers' perceptions. Organizations should consider these dynamics when designing remote work policies to mitigate burnout and enhance employee performance and satisfaction. It is crucial for leadership to take responsibility for prioritizing the well-being of workers and their working conditions, as their actions significantly influence work design, individual and team goals, and the overall organizational climate.

KEYWORDS

COVID-19 pandemic, teleworking, work-life and life-work conflict, burnout, performance, university teachers

Introduction

During the global COVID-19 pandemic, lockdowns imposed an unprecedented disruption to life and work of millions of people worldwide. A significant portion of these individuals not only found themselves confined to their homes but also engaged in remote work. For example, in 2020, approximately 12.45% of EU workers aged from 20 to 64 years-old worked from home, whereas in 2019 this number was only 5.5% (Eurostat, 2021). More specifically,

according to Eurostat (2021) when urban areas and capital regions are considered, such as Germany, Luxembourg, the Netherlands and Portugal, the number of teleworkers increased to one fifth of the workforce in 2020.

The COVID-19 pandemic created a real-world scenario in which individuals were forced to adapt to various changes in their work and personal lives. During lockdowns the rapid shift to telework and the blurring of boundaries between work and home made personal and professional life more intertwined. Home became the hub for all daily activities, serving as a workspace, leisure area, family space, and, occasionally, a makeshift school for remote classes (Pennington, 2021; Uddin, 2021). Thus, COVID-19 lockdowns closely resemble what might be achieved in a controlled experiment. It presents a unique and unexpected opportunity to collect data on how individuals perceive the distinction between work-life and life-work conflicts and whether these conflicts have distinct consequences for their well-being and professional outcomes.

This study addresses key gaps in understanding the bidirectional nature of work-life and life-work conflicts within the context of extreme teleworking during the COVID-19 lockdowns, examining how these conflicts predict university teachers' burnout and performance and their willingness to continue teleworking post-pandemic. Existing research has largely focused on a unidirectional view of work-life conflict, often neglecting the interplay between work intruding into personal life and personal life interfering with work, which this study aims to explore as distinct yet interconnected dimensions. From an applied perspective, approaching work-life and life-work conflicts as distinct yet related concepts, allows organizations to tailor their practices and manage each dimension, and their respective consequences, effectively. This is particularly relevant given the continued prevalence of teleworking after the COVID-19 lockdowns which significantly impacted people's lives worldwide, affecting various aspects of their daily routines, well-being, and mental health. Specifically, companies' leadership face the challenge of devising strategies that align with the "new" reality and maintaining the well-being of workers and their performance (Dias-Oliveira et al., 2022; Lyons et al., 2009) in line with the United Nations Sustainable Development Goals (SDGs) (United Nations, 2020). By doing so, companies can mitigate the consequences of work-life and life-work conflicts on employment relationships and directly contribute to the achievement of two SDG goals: Good Health, and Well-Being (SDG 3) and Decent Work, and Economic Growth (SDG 8).

Theoretical framework and hypothesis

Individuals respond to demands in various domains of their lives, such as personal and professional, that may be conflicting. Indeed, individuals' participation in one domain affects their participation and experiences in another domain (i.e., family to work or work to family). The response to multiple demands is exacerbated when the cognitive ability of individuals is impaired, for example due to fatigue. In these situations, it is more challenging to compartmentalize, using "mental fences" (Zerubavel, 1991: 2), the different domains within which individuals move. As a result, it is difficult for individuals to assess when to open and close the gates that separate the different domains. Conceptually, Border Theories (i.e., Ashforth et al., 2000; Matthews and Barnes-Farrell, 2010) and Work-family Border Theory (Clark,

2000) advocate that the distinction of boundaries is critical. These boundaries must be perceived as being flexible for the fulfilment of basic psychological need for autonomy. In the work context, for example, if the employee has the ability or power to change when and where their work gets done and whether they can leave work for the family domain, then the boundaries are perceived as flexible.

Each domain has its own culture and provides different motivations for the behaviors performed. In this sense, workers are border-crossers making continuous, daily transitions between their work and family lives. The level of adjustment required for the transition between domains can be framed in terms of Spillover Theory (Bolger et al., 1989). For some individuals, the adjustment for the transition between domains (border-crossing) may be slight, for example when language and customs are highly similar in both domains. For others, the language and behavior expected in one domain are very different from what is expected in the other domain and, therefore, the adjustments for the transition between domains are more severe and might result in conflict (Clark, 2000). Thus, it could be argued that when the individual's adjustment to the transition is severe, the boundaries between domains is well-defined. Conversely, if an individual's adjustment to transitions between domains is slight, then the boundaries between domains are blurred.

In teleworking, the boundaries between work life and personal life may be even more blurred than in face-to-face working environments. Teleworking offers workers the benefits of working in silence with fewer interruptions and distractions (Carillo et al., 2021), leading to higher levels of concentration, increases in work efficiency, and a better balance of work and life demands (Charalampous et al., 2019). According with the European Commission (European Commission, 2020) prior to the COVID 19 pandemic, teleworking was used mainly by highly-skilled workers in knowledge-intense activities, who did most of their work on computers and enjoyed high degrees of autonomy. For knowledge workers, the highest prevalence of teleworking was amongst teachers (43%); which largely reflects informal overtime work at home, for example time spent for preparing lectures, conducting research, and marking assessments. Academia is one of the most flexible work environments. University teachers have a high level of self-autonomy and manage their work at their discretion (Damasko et al., 2014; Fontinha et al., 2019; Pitt et al., 2021). In addition, their academic work is closely linked to their identity, which correlates to the amount of time that they give to their work (Fox et al., 2011). Indeed, the literature shows that college and university teachers, tend to work longer hours than people in other professions and as a result they have less time to spend on their family and personal life (Jacobs and Winslow, 2004; Misra et al., 2012). Moreover, the culture in academia tends to reward university teachers who constantly perform at high levels often leaving them with little room to accommodate activities outside work (Fox et al., 2011). Furthermore, as Carlson et al. (2000) assert, in this context of extreme boundary flexibility, university teachers may struggle to meet the demands of their work and family and personal responsibilities at the same time.

The successive lockdowns caused by the COVID 19 pandemic resulted in abrupt and unexpected changes in working patterns, for example in universities, as in many sectors in society, work that was previously done on site was suddenly done remotely. These new ways of working might have further hindered the ability of university teachers to manage transitions between domains. Indeed, home became the place where all daily activities were carried out, at the

same time. Home was the space for work, leisure, family, and for parents, an improvised classroom for remote teaching (Pennington, 2021; Uddin, 2021). During the pandemic, university teachers were required to adapt their home, pedagogy, and work methods to accommodate digital interactions and technical equipment and to deliver their teaching online (Lizana and Vega-Fernandez, 2021). These changes had various consequences on academics' work-life and life-work boundaries including having less energy for leisure (Raišienė et al., 2022); extending their working hours and lowering their performance (Ahmadi et al., 2022); and impacting their mental health such as increased levels of exhaustion and fatigue (Raišienė et al., 2022), depression and anxiety, technostress and burnout syndrome (Lizana and Vega-Fernandez, 2021; Chirico et al., 2021). In addition, female academics reported increased domestic and childcare responsibilities (Guy and Arthur, 2020). In fact, as Hobfoll (1989) asserts, individuals typically strive to achieve and maintain their resources at work and at home. A disruption to one of these domains, such as the COVID 19 pandemic, led to an inability to protect resources and balance roles in either domain, resulting in a decline in well-being. As such, if the integrity of domains is difficult to maintain then the roles that individuals must perform within home and work might conflict.

Work-life and life-work conflicts occur when individuals must perform multiple roles at the same time. For example, being a worker, spouse, parent, and neighbor (Edwards and Rothbard, 2000; Carlson et al., 2000). This type of inter-role conflict operates in two distinct directions (Frone et al., 1992; Greenhaus and Beutell, 1985; Mäkelä and Suutari, 2011; Byrne and Barling, 2017; Netemeyer et al., 1996). One's work role can hinder one's role in the life domain. A negative spillover from work to the family domain, for example, when individual gives more time to their work, may result in a work-life conflict. In addition, one's family role can jeopardize one's role in the work domain. A negative spillover from family to the work domain, for example, when individuals give more time to family, may result in life-work conflict (Yucel and Latshaw, 2020; Frone et al., 1992; Rothbard, 2001; Mäkelä and Suutari, 2011; Soomro et al., 2018). Family and work domains invoke different norms, expectations, and requirements. When these pull an individual in opposite directions it results in an inevitable inter-role conflict, that is, work-life and life-work conflicts (Fredriksen and Scharlach, 2001; Shaffer et al., 2016). Research suggest that the two conflicts are sufficiently different in nature and scope to warrant independent examination (e.g., Byron, 2005; Mesmer-Magnus and Viswesvaran, 2005; Elahi et al., 2022). Indeed, a meta-analysis by Byron (2005) found that work-family and family-work conflicts have unique antecedents and attitudes (e.g., demographic, work, and non-work-related variables). Therefore, current research on this topic (Beigi et al., 2016; Elahi et al., 2022; Moreira et al., 2023) examines both work-life and life-work directions of the conflict and how each affects the work-related outcomes, for example employee's burnout and performance.

Burnout is a state of exhaustion which occurs when a worker lacks the emotional resources to perform their tasks. Maslach (1976) described this condition as a detachment from others and from work which results in a shift towards cynical feelings and poor work performance. The negative impact of burnout on distinct domains of human life justified the inclusion of this syndrome by World Health Organization (WHO) in the 11th Revision of the International Classification of Diseases (ICD-11; World Health Organization, 2019).

Currently, burnout is one of the most important work-related psychosocial threats. It is prevalent amongst many professions and occupational groups with significant costs for individuals, organizations, and society at large (Edú-Valsania et al., 2022; Epstein et al., 2020; Medina et al., 2021). The imbalance of work-life and life-work is a potential cause of stress and unconstructive work attitudes, which are positively related to burnout (Tziner et al., 2015; Rubio et al., 2015). Like other workers, when university teachers' work spills over into the family domain, or family issues spills over into the work domain, this may have a negative impact on their psychological and emotional health. University teachers with work-life and life-work conflicts are more likely to report higher levels of mental health problems (Denson et al., 2018; Badri, 2019; Pitt et al., 2021).

In a context of the COVID 19 lockdowns, when university teachers are teleworking the potential for burnout can be even more prevalent. As Molino et al. (2020) argue the pressure to be online, whether to work or to socially interact with colleagues, makes it more difficult to disconnect physically and mentally from work and to recover between workdays, with consequences on teleworkers' ill-being. Therefore, university teachers working remotely might be more prone to burnout, less willing to continue teleworking after the pandemic lockdowns and exhibit a decline in their performance.

Employee performance is a multidimensional concept. It refers to workers' behavioral engagements, that is, the action individuals take to carry out their work, as well as expected work outcomes which are the consequences of workers' job behavior (Pradhan and Jena, 2017). Previous research suggests that work-life and life-work conflicts causes a decline in workers' work attitudes (Schieman et al., 2003; Rothbard, 2001; Rotondo and Kincaid, 2008; Cohen and Liani, 2009; Mohsin and Zahid, 2012; Thompson and Aspinwall, 2009) and work effort (Konrad and Mangel, 2000) that in turn causes poor performance (Grzywacz and Marks, 2000; Ahmad, 2008; Mohsin and Zahid, 2012). In addition, Beauregard et al. (2019) reviewed existing research on teleworking prior to COVID 19 and concluded that the relationship between teleworking and employee performance is not clear. Some studies report a positive impact on individual and team-related performance (e.g., Golden and Gajendran, 2019) whereas others suggest negative consequences for workers' performance (e.g., Sardeshmukh et al., 2012; Van der Lippe and Lippényi, 2020). Research carried out during COVID 19 on the relationship between teleworking and workers' performance has produced similar mixed findings on job-performance outcomes related constructs. For example, Mohring et al. (2020) assessed individual panel data collected before and during lockdowns and found an overall decline in work satisfaction regarding remote work. Likewise, Abdel et al. (2021) reported a negative spillover effect of work demands over family demands during teleworking on workers' emotional health. By contrast, research by Saba and Cachat-Rosset (2020) found that although teleworking was associated with an increase in workload, modification of tasks and social isolation, workers perceived that they were more productive and able to reduce work-life conflict.

As work-life conflict and life-work conflict are two distinct constructs, they might affect workers' performance differently. As Anwar et al. (2013) argue work-life and life-work conflicts can affect employee performance positively or negatively. For example, Soomro et al. (2018) study of university teachers reported a non-significant negative relationship between life-work conflict and perceived performance, but a significant positive relationship between work-life conflict and

perceived performance. Thus, it could be argued that a negative spillover effect in the personal domain, such as when an employee takes work assignments home, will disturb the employee's personal life but might have a positive effect on their professional life and their perceived performance. Teleworking outside business hours is normative, expected and rewarded amongst university teachers particularly for those who are pursuing a high-level career (Fox et al., 2011). Thus, due to university teachers' high level of investment in the work domain, work-life conflict might contribute to a more positive perceived performance. However, whereas before the COVID 19 pandemic university teachers had the autonomy to choose whether to work from home or not, during the pandemic, teleworking was mandatory. These conditions might increase the work-life conflict and result in a positive perceived performance. In addition, a life-work spillover effect, such as when a university teacher brings their personal problems into work, would have a negative effect on the perceived performance. Indeed, if their career ambitions are constrained by responsibilities and issues in their personal life this may contribute to a negative perceived performance. As current perceptions of the work context influence future actions, and given that the connection between teleworking and performance is not clearly defined, we investigate whether university teachers who perceive their teleworking positively report a stronger inclination to continue teleworking. Thus, the research hypothesis are as follows:

H1: Higher levels of work-life conflict and life-work conflict predict higher levels of burnout for teleworking university teachers during COVID 19 lockdowns.

H2: Higher levels of work-life conflict predict higher perceived performance, whereas higher levels of life-work conflict contribute to lower perceived performance, in teleworking university teachers during COVID 19 lockdowns.

H3: Higher levels of burnout predict lower willingness to continue teleworking and lower perceived performance for teleworking university teachers during COVID 19 lockdowns.

H4: Higher levels of perceived performance predict higher willingness to continue teleworking for teleworking university teachers during COVID 19 lockdowns.

Method

Procedure

A protocol with the Consortium of Portuguese Higher Education Institutions was established for the study. Ten institutions from all major regions of the country participated: Northern (42%), Central (40%), and Southern (18%). Two (11%) were private, and the remaining 89% were public institutions. All participating institutions operated under an in-person teaching regime before the COVID-19 pandemic, adapting to teleworking during the lockdown period. The questionnaire was emailed to their teaching staff using QualtricsXM. Each participating institution designated a liaison, who was responsible for distributing the survey link to their teaching staff, ensuring effective dissemination within their organization. Participants were asked for their consent, and confidentiality and voluntary participation were guaranteed. Ethical

precautions were taken according to the Ethical Charter of the Portuguese Society of Education Sciences (2020) and the Universidade Católica Portuguesa (2015). There were no risks or monetary incentives. Respondents confirmed working remotely during the January 2021 lockdown, completed demographic information, and shared perceptions of work-life balance, burnout, performance, and future remote work willingness. Completing the questionnaire took approximately 17 min. Data was collected between 15th February and 12th April 2021.

Participants

Overall, 396 participants (university teachers) fully completed the questionnaire, 14 were removed from the dataset because they did not comply with the inclusion criteria of working exclusively from home during the lockdown. Thus, a final sample of 383 was considered. Most of the participants were female ($n = 229$, 60%), aged between 22 and 69 years-old ($M = 47.37$, $SD = 9.32$), and holding a PhD (63, 26% a MSc degree, and 11% a Bachelor's degree). Participants were mainly married (66, 21% single, 11% divorced, 1% widow, 1% did not answer), and living in a household of 4 people (32%; 25 and 23% lived in households of 2 and 3, respectively; 12% lived alone, and the remaining 7% lived in households of 5 or more individuals; 2% did not answer).

Regarding their work, participants' job experience ranged from 2 months to 40 years ($M = 16.5y$, $SD = 9.8y$). Only 11% had experience of teleworking in a previous organization, and 5% had some experience working remotely in the organization they were working in at the time they completed the survey. Most participants ($n = 328$, 86%) reported that they were working more hours in the lockdown (remote regime) than before the lockdown (the face-to-face regime). Twelve percent indicated that they worked the same amount of time, and 2% indicated that they were working fewer hours.

Measures

Work-life and life-work conflict

The Work/Non-work Interference and Enhancement Scale (Fisher et al., 2009) was used to assess participants' perceptions of work-life and life-work conflict during the lockdown. They were asked to rate their agreement (1 = *completely disagree*, 5 = *completely agree*) with 10 statements regarding (a) work-life conflict (e.g., "I often neglect my personal needs because of the demands of my work," 5 items, $\alpha = 0.92$) and (b) life-work conflict (e.g., "I am too tired to be effective at work because of things I have going on in my personal life," 5 items, $\alpha = 0.87$).

Burnout

To evaluate participants' perceptions of burnout, an adaptation of the Maslach Burnout Inventory (Maslach and Jackson, 1981) was used. Participants indicated how frequently (1 = *never*, 5 = *always*) they experienced ten different situations during the lockdown (e.g., "I feel emotionally drained from my work"). A single score of Burnout was computed by averaging their responses ($\alpha = 0.89$). Higher scores indicated stronger feelings of job burnout.

Perceived performance

The "Productivity" dimension of the E-Work Life Scale (Grant et al., 2018) was used to assess participants' perceptions regarding

their performance while teleworking. They rated their agreement (1 = *completely disagree*, 5 = *completely agree*) with four different statements (e.g., “E-working makes me more effective to deliver against my key objectives and deliverables”). Based on the average of their responses, a single score of perceived performance was computed ($\alpha = 0.80$). Higher scores indicated more positive perceptions of performance.

Willingness to continue teleworking

To assess participants' willingness to continue teleworking after the pandemic, they were asked to rate their agreement (1 = *completely disagree*, 5 = *completely agree*) with three statements: “I now hold a positive view of teleworking,” “I hope to have opportunities to keep teleworking,” and “I am motivated to keep teleworking.” A confirmatory factor analysis supported that this unidimensional structural is a good fit to the data: $\chi^2(1) = 6.34$, $p = 0.012$; $\chi^2/df = 6.34$; CFI = 0.995, $p_{CFI} = 0.332$, RMSEA = 0.099, $p_{RMSEA} = 0.089$, 90% CI [0.037, 0.178], SRMR = 0.020; AIC = 22.34, BCC = 22.46, MECVI = 0.041. Therefore, a single score of willingness to continue teleworking was computed ($\alpha = 0.90$).

Data analysis procedure

Data analysis followed a 2-step procedure: (1) descriptive statistics, normality and multicollinearity assumptions were calculated using IBM SPSS software® (version 28); (2) path analysis using IBM SPSS AMOS software (version 28) was conducted to test the study hypotheses. For the path analysis, the following indicators were used to assess the fit of the theoretical model to the collected data: (a) Chi-square test (χ^2); (b) Root Mean Square Error of Approximation (RMSEA) and the Root-Mean-Square Residual (SRMR), for which an adequate fit is considered if values are between 0.05 and 0.08, and values inferior to 0.05 and p value ≤ 0.05 indicate an excellent fit (cf. Arbuckle, 2008; Steiger, 1990; Marôco, 2014); (c) Comparative Fit Index (CFI) and Tucker-Lewis Index (TLI), for which values ≥ 0.90 and ≥ 0.95 indicate an adequate and an excellent fit, respectively (cf. Bentler, 1990; Bentler and Bonett, 1980).

Results

Preliminary analyses

Before conducting the path analysis, the normality and multicollinearity assumptions were checked. Skewness ($-0.46 < sk < 0.76$) and kurtosis ($-0.84 < ku < 0.43$) of all variables was below |3| and |10|, respectively, thus no severe deviations from the normal distribution were found (cf. Kline, 2015). Correlations and VIF statistics were conducted to check for multicollinearity (cf. Table 1): all correlations were below 0.80 and VIF values inferior to 5 as necessary (cf. Marôco, 2014).

Path analysis

The study hypotheses were tested using path analysis. According to the proposed theoretical model, work-life conflict (i.e., high work

TABLE 1 Correlation matrix, means (standard deviations) and VIF coefficients across the study variables ($n = 373$).

	1.	2.	3.	4.	5.	VIF
1. Work-life conflict	3.32 (1.10)					1.68
2. Life-work conflict	0.45***	2.33 (0.91)				1.59
3. Burnout	0.60***	0.43***	2.59 (0.88)			1.71
4. Perceived performance	-0.31***	-0.52***	-0.39***	3.56 (0.79)		1.43
5. Willingness to remain in telework	-0.18***	-0.23***	-0.26***	-0.58***	3.46 (1.10)	

*** $p < 0.001$, ** $p < 0.010$, * $p < 0.050$.

interference with personal life) and life-work conflict (i.e., high personal life interference with work) was expected to negatively predict willingness to continue teleworking via higher perceptions of burnout and lower perceptions of performance. It was also expected that higher feelings of burnout would predict lower perceptions of performance (cf. Figure 1).

Overall, the proposed model presents an excellent fit to the data: $\chi^2(2) = 5.19$, $p = 0.075$; $\chi^2/df = 2.60$; CFI = 0.994, $p_{CFI} = 0.199$, TLI = 0.971 RMSEA = 0.065, $p_{RMSEA} = 0.272$, 90% CI [0.000, 0.136], SRMR = 0.020; AIC = 41.19, BCC = 41.73, MECVI = 0.111. The proposed model accounted for 39% of variance of burnout, 30% of variance of perceptions of performance, and 34% of variance of willingness to continue teleworking. Table 2 summarizes the parameters' estimates.

The results showed, consistently with H1, that university teachers' higher work-life and life-work conflict predicted higher levels of burnout. H2 was partially supported as only life-work conflict predicted lower levels of performance, whereas work-life conflict was not significantly related to perceived performance. Moreover, the more university teachers experience burnout, the lower their perceptions of performance. However, burnout does not have any direct and significant relation with their willingness to continue teleworking. Therefore, H3 was partially supported. H4 was fully supported. The direct relationship between performance levels and willingness to continue teleworking in the future was also significant. The indirect effects showed that burnout and perceived performance can mediate the relation between work-life conflict and life-work conflict and workers' willingness to continue teleworking post-covid (Table 2).

Discussion

The findings of Hypothesis 1 (H1) indicate that both work-life and life-work conflicts exert a strong influence on burnout, even when tested separately. The results are consistent with the existing literature suggesting that an imbalance between work-life and life-work is positively correlated with burnout (Tziner et al., 2015; Rubio et al., 2015; Denson et al., 2018; Badri, 2019; Pitt et al., 2021). As anticipated, findings for Hypothesis 2 (H2), show that higher levels of life-work conflict predict lower perceived performance. Also, as expected, life-work conflict does not predict performance

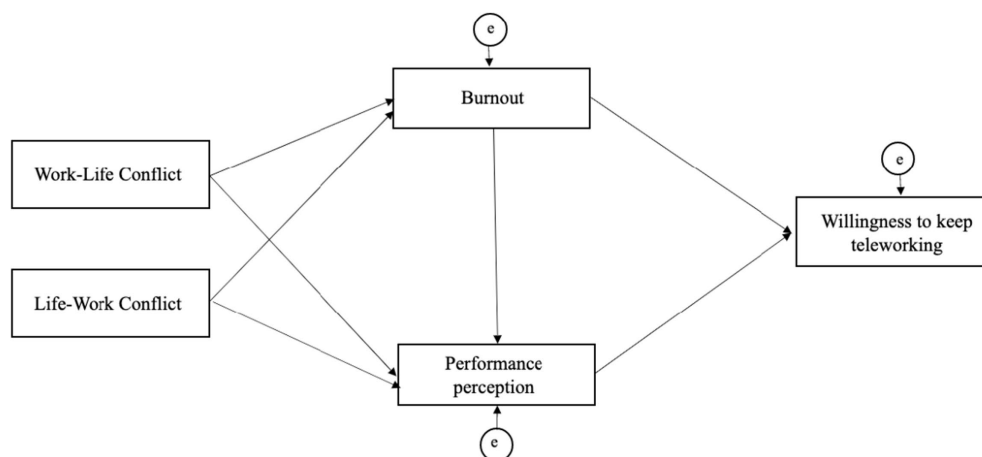


FIGURE 1
Proposed model.

in the same manner as work-life conflict. In this case, the relationship between work-life conflict and perceived performance is positive but not statistically significant. In other words, work-life conflict does not affect performance in the specific context of the pandemic lockdowns. The results of H2 demonstrate that workers not only perceive both conflicts differently but also respond to them differently. Whereas negative spillover in the personal domain does not impact professional life and perceived performance, negative spillover into the professional domain adversely affects performance. These findings are consistent with Soomro et al.'s (2018) study of the relationship between both work-life and life-work conflicts and performance amongst university teachers where the former relationship yielded non-significant results.

H1 and H2 both encompass essential and unique elements in this study. These include a focus on investigating: (1) the conflict between the family and work domains, examining both work-life conflict and life-work conflict, and (2) the experiences of university teachers under extreme teleworking conditions during the COVID-19 lockdowns. While it is acknowledged in the literature that both work-life and life-work conflicts are different and can have a different impact on work outcomes (e.g., Beigi et al., 2016; Byron, 2005; Elahi et al., 2022), previous research has not always distinguished between work-life and life-work conflicts (e.g., Gisler et al., 2018).

During the COVID 19 period, the extreme teleworking context intensified the sense of strain across different domains of workers lives to an unprecedented level, rendering boundaries nearly non-existent or impossible to establish (Dias-Oliveira et al., 2022). Home became the focal point of people's lives. It served as the hub for family, work, school, shopping, and other aspects of life. To support their staff, companies' leadership implemented strategies to assist their teams to balance the various aspects of their lives using flexible work schedules, adapting tasks and meeting times for team members' family situations, enabling reduced work hours or alternative schedules, and encouraging weekend shutdowns (Silva et al., 2023). Therefore, these circumstances provided a unique opportunity to research work and family and family and work conflicts faced by worker, as university teachers, as if in a laboratory

setting. In this scenario, it is noteworthy that H1 was confirmed and H2 was partially confirmed (though all relationships were in the expected direction). This suggests that even in a highly adverse context where the boundaries between home and work are blurred, university teachers can distinguish between the two conflicts. Work-life and life-work conflicts are indeed two different constructs, contributing differently to the work relationship, and they should be measured, evaluated, and addressed by organizations as distinct constructs. Moreover, we argue that studies conducted in this new work reality, with the aim of studying the conflict between the two domains, should consider both dimensions.

Hypotheses 3 and 4 focused on workers' willingness to continue teleworking in the future. H3 is partially supported and reveals a significant finding. While university teachers' burnout predicts lower perceived performance, burnout does not predict university teachers' willingness to continue teleworking. In other words, even in an extreme teleworking context we can infer that teleworking will not be perceived as the cause of burnout. In fact, university teachers express a desire to continue working remotely in the future regardless of their level of burnout. Indeed, burnout is not an explanatory variable for the willingness to continue teleworking. Furthermore, H4 confirms that university teachers who perceived their teleworking performance positively are even more willing to continue teleworking in the future. These results are consistent with both pre- and post-COVID 19 literature. For example, prior to COVID 19 the literature suggests that from the workers' perspective, the advantages of teleworking are associated with a better balance between personal and professional life; increased flexibility, autonomy, productivity, job satisfaction, and employee morale; as well as reducing commuting time and presenteeism (Gajendran and Harrison, 2007; Tavares, 2017). After COVID 19, Raišienė et al. (2021) found that the majority of workers claim to have become accustomed to working remotely and believe in its continuity, and most workers believe that teleworking is entrenched in the labor market. Moreover, the results are also consistent with previous studies of teleworking amongst knowledge workers, such as university teachers.

TABLE 2 Parameters' estimates for the proposed model.

	b	SE	p	β
Direct effects				
Work-life conflict - > Burnout (H1)	0.40	0.04	<0.001	0.50
Life-work conflict - > Burnout (H1)	0.21	0.04	<0.001	0.22
Work-life conflict - > Performance (H2)	0.02	0.03	0.619	0.03
Life-work conflict - > Performance (H2)	-0.38	0.04	<0.001	-0.44
Burnout - > Performance (H3)	-0.20	0.05	<0.001	-0.22
Burnout - > Willingness to continue teleworking (H3)	-0.05	0.06	0.342	-0.04
Performance - > Willingness to continue teleworking (H4)	0.79	0.06	<0.001	0.57
Indirect effects				
Work-life conflict - > Performance (via burnout)	-0.08	0.02	0.011	
Life-work conflict - > Performance (via burnout)	-0.04	0.01	0.011	
Work-life conflict - > Willingness to keep teleworking (via burnout)	-0.02	0.03	0.359	
Life-work conflict - > Willingness to keep teleworking (via burnout)	-0.01	0.01	-0.346	
Work-life conflict - > Willingness to keep teleworking (via performance)	0.02	0.03	-0.593	
Life-work conflict - > Willingness to keep teleworking (via performance)	-0.30	0.04	0.005	
Work-life conflict - > Willingness to keep teleworking (via burnout and performance)	-0.06	0.02	0.011	
Life-work conflict - > Willingness to keep teleworking (via burnout and performance)	-0.03	0.01	0.007	

The benefits of teleworking for knowledge workers have been well established in the literature even before COVID 19. [Mazzi \(1996\)](#), for example, found that knowledge workers with individually-based tasks which require high levels of concentration can benefit from the reduction of interruptions when working away from the office environment. This is in line with research findings that show that when knowledge workers are able to telework, they report higher levels of job satisfaction and perceived productivity ([Tustin, 2014](#)) and organizational commitment ([Kelliher and Anderson, 2010](#)). Other research on knowledge workers (e.g., [Kelliher and Anderson, 2010](#); [Tustin, 2014](#); [Arvola and Kristjuhan, 2015](#)) suggest that they also experience lower fatigue and frustration, and reduced stress associated with commuting and daily demands in the office. Furthermore, a study conducted between 2017 and 2018 in Sweden reported that compared to academics who work on campus, academics who telework are equally satisfied with their autonomy at work, and their relationships with colleagues; they also feel equally efficient at work, regardless of how much they telework ([Heiden et al., 2021](#)). Evidence also suggests (e.g., [Soomro et al., 2018](#)) that academics with the most professional experience are best suited for teleworking as their teaching experience seems to ensure high levels of teaching quality when teleworking.

In the current work environment, characterized by the coexistence of teleworking, hybrid, and face-to-face work, the results of this study are particularly relevant. The insights gained from extreme contexts provide valuable lessons for improving companies' leadership, work relationships, and organizational practices even in less extreme settings. As teleworking solidifies its place in the modern workplace, addressing work-life and life-work conflicts becomes crucial for companies aiming to enhance

employee performance and satisfaction. In fact, organizations and their leaders should carefully consider these dynamics when designing remote work policies. Efforts to reduce life-work conflict seem essential for maintaining high levels of perceived performance, while addressing burnout directly through support mechanisms and resources can sustain overall employee performance. This study also underscores the importance of tailored interventions to manage work-family dynamics, ensuring that teleworking remains a viable and productive option beyond the pandemic.

In terms of potential limitations of this study, one key aspect to consider is the measurement of performance which relies on self-reported data, reflecting participants' perceptions on their performance. Future studies could use more objective measures of performance to address this limitation. Another limitation relates to the research design, which provides only a snapshot of the moment, as it is a cross-sectional study. Looking ahead future research should explore the long-term impacts and effectiveness of various organizational strategies in supporting teleworkers, through longitudinal designs. Studies should continue to investigate the relationship between work-life and life-work conflicts and other outcomes, such as job satisfaction, physical health, or overall life satisfaction. This would deepen the understanding on how these conflicts influence both professional and personal aspects of workers' lives. Furthermore, conducting exploratory qualitative studies could provide richer insights into the diverse dimensions of individuals' experiences.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Author contributions

FS: Conceptualization, Funding acquisition, Investigation, Methodology, Project administration, Writing – original draft, Writing – review & editing. ED-O: Conceptualization, Investigation, Writing – original draft, Writing – review & editing. CM: Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Writing – review & editing. JH: Writing – original draft, Writing – review & editing.

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The relationship between ethical leadership, teacher motivation, and commitment in public schools in Portugal

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In the current educational context, transformations are continuous, and the ethical dimension of leadership has become one of the main concerns of school cluster directors, given its direct influence on teachers' motivation. This study, conducted with a sample of 204 teachers from public schools in Portugal, aimed to investigate the relationship between ethical leadership, motivation, and commitment. The results revealed that ethical leadership is positively correlated with intrinsic motivation and organizational commitment (OC). On the other hand, despotic leadership exhibits a negative correlation with OC and intrinsic motivation. Furthermore, it was found that commitment plays a mediating role in the effect of ethical leadership on teachers' intrinsic motivation. These findings underscore the importance of promoting ethical leadership in schools, not only to foster teachers' motivation but also to strengthen their commitment to the institution. Conversely, the need to avoid despotic practices is emphasized, as they can adversely affect not only teachers' motivation but also their commitment to the educational organization. These conclusions further highlight, as future research avenues, the importance of promoting ethical leadership in educational institutions to ensure a healthy and productive work environment for teachers.

KEYWORDS

leadership, commitment, motivation, teachers, ethical

1 Introduction

The role of the teacher is influenced by the historical, cultural, and political context, being a concept in constant evolution (Carvalho, 2016). This evolution is affected by factors such as bureaucracy, greater accountability, and public scrutiny (Carvalho, 2016; Flores, 2016). In this context, the leader (i.e., the school director) has a particularly important role in that he can articulate, encourage, and mobilize his followers—teachers, specialized technicians, and educational assistants—to achieve the goals related to the construction of quality education, the improvement of the skills acquired, and the academic results obtained by students. Over the past few years, the topic of leadership in educational institutions has been addressed as one of the key variables for the development of teachers and schools (Flores, 2016). Several studies stand out in terms of the historical evolution of the theme, such as that of Bass and Bass (2008) or Yukl et al. (2002), that of Blackmore (2004) in Australia, the comparative study between Portugal and England by Day et al. (2007), the meta-analysis on educational leadership in Portugal by Costa and Figueiredo (2013), the systematic literature review by Castanheira and Costa (2011) and Jacobs et al. (2016) in the USA, and Frost (2012) and Muijs and Harris (2006) in the United Kingdom.

Considering the perspective of Ryan and Deci (2022) on motivation and the principles that circumscribe the theory of self-determination, school leaders assume particular relevance in

promoting contexts with a low level of control that encourage autonomy, where each individual can pursue their own choices, as well as internalizing and integrating norms and values. In other words, school leaders have the responsibility to promote the creation of organizational climates that increase the satisfaction of teachers' autonomy and relationship needs (Esteves et al., 2016; Gil and Machado, 2016).

Leadership styles can thus contribute positively to a teacher's affective commitment to the school (Mahmoud et al., 2023), in particular, through the support provided to teachers and the development of a positive school climate (i.e., Day et al., 2007). In addition to the leadership of school principals, other factors have been identified as catalysts or inhibitors of teachers' commitment (Flores, 2016; Getahun et al., 2016) such as, for example, those relating to national education policies, support administrative, student behavior, and parental demands (Xiao and Wilkins, 2015).

Through this route, school leaders can contribute to increasing teachers' intrinsic motivation, promoting full internalization of extrinsic motivation, and affective commitment to the school. Finally, school leaders can contribute to job satisfaction and psychological wellbeing perceived by teachers, and with this, bring consequent positive attitudes toward work on the part of teachers at school (Franco and Silva, 2022).

1.1 Leadership and ethics in an educational context

Ethical and moral leadership in the educational context has been a growing concern, with significant effects on relationships and organizational activity (Cumlat et al., 2023; Yukl et al., 2002). Furthermore, the impact on the psychosocial health of everyone involved in the educational process is significant (Yukl et al., 2002; Leithwood, 2022). Educational leadership, also faces challenges, including isolation, the management of ambiguity, and the adoption of ethical principles in conduct, among others (Graça da Costa et al., 2024).

The most developed leadership model in schools has been the transformational leadership model (Leithwood, 2022), which conceptualizes leadership in the following seven dimensions: 1. building a vision for the school; 2. establishing objectives for the school; 3. stimulating intellectually; 4. offering individual support; 5. modeling good practices and important organizational values; 6. demonstrating high-performance expectations and creating a productive school culture; and 7. developing structures that facilitate participation in school decisions. From this perspective, transformational leaders can produce organizational change and contribute to job satisfaction and performance at the individual, group, and educational context levels (York-Barr and Duke, 2022). This, both at the level of individual teachers, the teaching class, and the school as an organizational structure, must stimulate higher levels of intrinsic motivation, organizational trust, and commitment (Leithwood, 2022).

These perceptions of leadership, judgments, and representations constructed about leaders and leadership can be affected by several variables, such as age group and training, and by other conditions,

such as length of service in the profession (Araşkal and Kiliç, 2019; Getahun et al., 2016).

Some authors, such as Rego and Braga (2017), defend the transformational leadership model as it integrates the concepts of values and ethics into leadership. Therefore, despite the positive effects arising from transformational leadership, the principle that the ethical and moral assessment of leadership cannot end in analyzing the consequences of leadership itself must be taken into account. It is, therefore, necessary to differentiate the moral character of the leader and the ethical legitimacy of the values embedded in the vision and their respective articulation of the morality of the processes of choice and action that leaders and followers embrace and pursue.

Conceptualizations of leadership have therefore emerged with the aim of narrowing the focus on ethical and moral issues, seeking to substantiate and develop conceptually and operationally the construct of ethical and moral leadership and to understand the impact of the ethical and moral dimension of leadership (Cumlat et al., 2023).

Regarding the ethical and moral issues of leadership, Bass and Avolio (1993) recognize that the ethical dimension of transformational leadership is in itself morally neutral, that is, without differentiation of the moral values underlying its behavior. Ultimately, two leaders can adopt identical transformational behaviors and even have similar consequences. However, it is the underlying values that allow an individual to identify the ethical and moral dimensions of their behavior. Howell and Avolio (1992) add that transformational leaders can act both ethically and unethically, depending on the values they incorporate in their vision and strategic guidance. To give greater appreciation to the ethical dimension in leadership and promote understanding of the impact of ethical leaders on their followers, the concept of ethical leadership and the models associated with this construct emerge (Cumlat et al., 2023).

From this perspective, ethical leadership is defined as the "demonstration of normatively appropriate conduct to be carried out through personal actions and interpersonal relationships, and the promotion of such conduct to followers through two-way communication, reinforcement, and decision-making" (Brown et al., 2005, p. 120). Ethical leadership is a construct that can be measured through four dimensions: morality and justice, power-sharing, role clarification, and despotic leadership (Hoogh et al., 2008). In this multidimensional approach to ethical leadership, there is an antagonistic relationship between the notions of ethical leadership and despotic leadership. Ethical leadership reflects behaviors that meet the interests of followers, and despotic leadership, on the contrary, reflects authoritarian behavior, which serves the leader's own interests. Thus, they constitute independent constructs, negatively correlated and measured by the aforementioned dimensions: morality and justice, power-sharing, role clarification, and despotic leadership (Hoogh et al., 2008) (see Figures 1, 2).

1.2 Motivation in an educational context

Work motivation is defined as "a set of energetic forces that originate both within as well as beyond an individual's being, to initiate work-related behavior, and to determine its form direction intensity and duration" (Latham and Pinder, 2005, p.486).

The self-determination theory (Ryan and Deci, 2022) proposes a multidimensional view of motivation and distinguishes how different types of motivation can be promoted or discouraged. From this

Abbreviations: SDT, Self-Determination Theory; TC, Teacher Commitment; OC, Organizational Commitment; ELQ, Ethical Leadership Questionnaire; MWMS, Multidimensional Work Motivation Scale; OCAS, Organizational Commitment Assessment Scale; SPSS, Statistical Package for the Social Sciences.

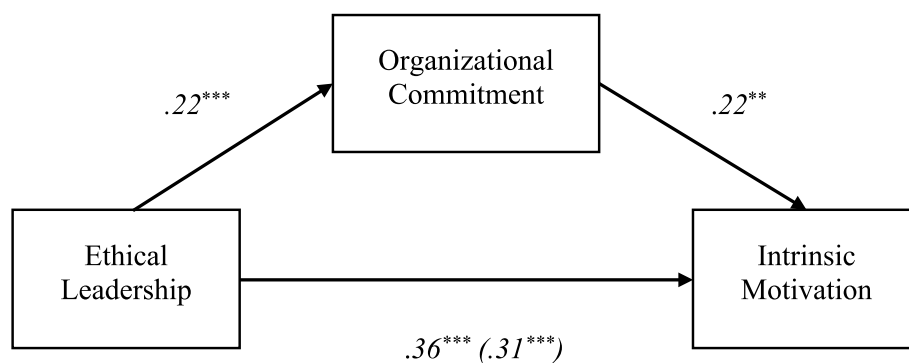


FIGURE 1

Standardized regression coefficients for the relationship between ethical leadership and intrinsic motivation mediated by organizational commitment. ** $p < 0.01$. *** $p < 0.001$.

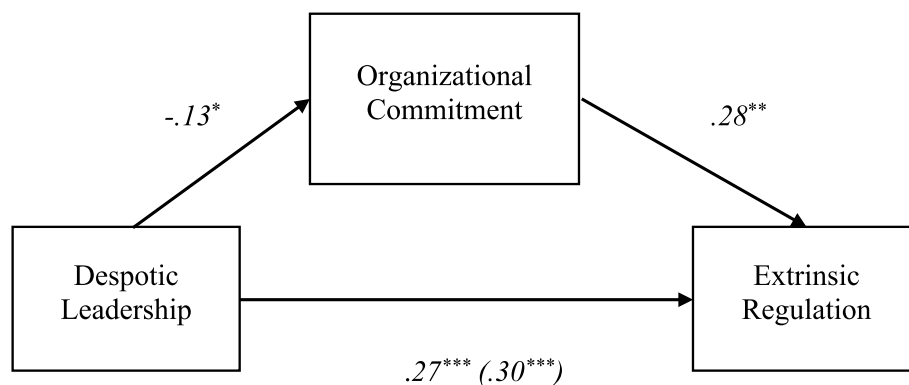


FIGURE 2

Standardized regression coefficients for the relationship between despotic leadership and extrinsic regulation mediated by organizational commitment. * $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$.

perspective, there are three possible types of motivation: amotivation, intrinsic motivation, and extrinsic motivation. Amotivation is defined as the lack of motivation for an activity (Ryan and Deci, 2017, 2022). Intrinsic motivation is the ability to do an activity for its own sake, that is, because it is interesting and enjoyable (Ryan and Deci, 2017, 2022). In contrast, extrinsic motivation refers to the commitment to activities for instrumental reasons (receiving rewards, being approved, avoiding punishments and/or disapproval, increasing self-esteem, or reaching a personally valued goal) (Ryan and Deci, 2017, 2022).

The first form of extrinsic motivation, which is not completely internalized, is an external regulation that envisages carrying out an activity to obtain rewards (Bizarria et al., 2018). Introjected regulation is defined as the regulation of behavior through the internal pressure of ego forces, namely shame and guilt, which is known as ego involvement. This form of internalization is experienced as internal control (Bizarria et al., 2018). Finally, identified regulation presupposes that an activity is carried out because it identifies in a volatile way with its value or meaning, which is accepted as one's own. Identified regulation differs from intrinsic motivation in activities in which it is not carried out for internal satisfaction, but for the instrumental value it represents (Ryan and Deci, 2017, 2022). In contrast, internally controlled motivation has been the explanation for most desirable behavioral, attitudinal, and affective outcomes (Ryan and Deci, 2017, 2022).

From the perspective of SDT (Ryan and Deci, 2017), it is emphasized that school leaders must promote contexts that encourage autonomy, in which people can exercise their own choices and internalize/integrate norms—a low level of control. In this way, the chance arises of participating in decisions and promoting understanding in the face of possible negative feelings, when it is necessary to carry out a difficult task, as well as the development of a meaning for the activities to be carried out.

Leadership in an educational context can thus constitute an agent of motivation and reinforcement of intrinsic motivation for teachers to motivate themselves, implying that the principal is accessible, fair, and firm with parents and students (Jacobs et al., 2016). Principals can also be essential agents in developing teachers' support and motivation, justice and trust, as well as being concerned about their personal and professional growth and development (Frost, 2012; Jacobs et al., 2016).

1.3 Teacher commitment

According to Mowday et al. (1982), the concept of commitment was characterized by a strong belief in the acceptance of goals and values, the willingness to exert considerable effort on behalf of the organization, and a strong desire to maintain participation in it.

Organizational commitment (OC) has been studied both as a contextual variable and a mediating variable of leadership (Cunha et al., 2021) and has been identified as one of the most important factors for the success of education (Getahun et al., 2016; Xiao and Wilkins, 2015).

OC has been defined as a predictor of teachers' performance at school, contributing to the prevention of teacher burnout (Day, 2001). Teachers' OC also has an important influence on students' cognitive, social, behavioral, and affective results (Day, 2001). This is a concept that is assumed to be a part of the teacher's professional life and can be increased or decreased by factors that have already been mentioned previously, such as the leadership of principals, student behavior, administrative support, the demands of parents as well as national education policies (Day, 2001). Teachers who are committed have the lasting belief that they can make a difference in students' lives and learning paths (effectiveness and efficiency) through who they are (their identity), what they know (knowledge, strategies, and skills), and how they teach (i.e., their beliefs, attitudes, personal, and professional values incorporated into their behaviors) (Franco and Silva, 2022; Gagné et al., 2014).

In the model of commitment as a factor in the effectiveness of teacher performance (Meyer et al., 1993), OC is conceptualized as being divided into three components that can coexist with each other: affective, normative, and calculative (continuity). Affective OC can be defined as an emotional identification with the organization; the normative is the perceived obligation (ethical or moral) to remain in the organization. Finally, the calculation is defined as the perceived cost of leaving the organization (such as loss of seniority or lower wages).

OC has been referred to as having a mediating effect on variables such as satisfaction, organizational climate, and work motivation (Choi et al., 2015; Demirtas and Akdogan, 2014; Lyndon and Rawat, 2015).

In short, improving the perception of the level of teacher training, that is, the way in which teachers feel capable of responding to the challenges that the school poses to them, contributes to feelings of commitment to the school on the part of the teacher and to their commitment to students (Franco and Silva, 2022).

In this way, school leaders will be able to enhance teachers' motivation, commitment to school, effective performance, satisfaction, and positive attitudes toward work and psychological wellbeing (e.g., Franco and Silva, 2022).

Considering that there may be ethical or less ethical (despotic) behaviors on the part of the educational leader toward teachers and that commitment may constitute a mediating variable of leadership, and that leadership may have a positive impact on motivation, this study aims to verify, in an educational context, what is the relationship established between ethical leadership, OC, and teacher motivation.

2 Methods

2.1 Sample

The sample for this study consists of 204 teachers from 30 school groups in the north (Oporto district) and center of the country (Aveiro district). Of these participants, 156 (76.5%) were female and the remaining 48 (23.5%) were male. Regarding age, 26 (12.7%) participants are between 20 and 40 years old, 87 (42.6%) are between 40 and 50 years

old and 91 (44.6%) are between 50 and 60 years old. Regarding years of experience, 18 (8.8%) participants have up to 15 years of experience, 43 (21.1%) participants have between 15 and 20 years of experience, 45 (22.1%) have between 20 and 25 years of experience, and 98 (48.0%) have more than 25 years of professional experience.

2.2 Instruments

The assessment protocol was composed of the sociodemographic questionnaire constructed for the present study, the Ethical Leadership Questionnaire (ELQ; Hoogh et al., 2008; Portuguese version of Neves et al., 2016), the Multidimensional Work Motivation Scale (MWMS; Gagné et al., 2014; Portuguese version of Escala Multi-Factorial de Motivação no Trabalho; Coimbra in press) and the OC Assessment Scale (Meyer et al., 1993; Portuguese version of Nascimento et al., 2008).

The sociodemographic questionnaire allowed the collection of information on age and gender, and years of professional experience.

The ELQ (Hoogh et al., 2008; Portuguese version by Neves et al., 2016) constitutes an adaptation and validation for the Portuguese population of the Ethical Leadership Scale, consisting of 23 items, rated on a typical 7-point Likert scale. It allows evaluating ethical leadership in two dimensions: (1) ethical leadership—considers the way in which leaders should behave ethically and morally ($\alpha = 0.96$); (2) despotic leadership—reflects authoritarian behavior that serves the leader's own interests ($\alpha = 0.91$).

The MWMS (Gagné et al., 2014; Portuguese version of Neves, 2018) is a multidimensional scale consisting of 19 items, with the objective of assessing motivation for work. This encompasses 5 dimensions: (1) amotivation ($\alpha = 0.93$); (2) external regulation ($\alpha = 0.90$); (3) identified regulation ($\alpha = 0.77$); (4) introjected regulation ($\alpha = 0.89$); and (5) intrinsic motivation ($\alpha = 0.89$). These dimensions assess the different levels of motivation for work, from the absence of motivation (amotivation) to the optimal level of motivation (intrinsic motivation). Items in each dimension are evaluated on a 7-point Likert scale.

The OCAS (Meyer and Allen, 1991; Meyer et al., 1993; Portuguese version by Nascimento et al., 2008) is a multidimensional questionnaire consisting of 19 items, which assesses the level of worker commitment to the organization. It encompasses the three components that constitute OC: affective ($\alpha = 0.86$), calculative ($\alpha = 0.72$), and normative ($\alpha = 0.75$). Items are rated on a 7-point Likert scale.

2.3 Research hypotheses

The present study is focused on the following research hypotheses:

1. The perception of ethical leadership is positively correlated with OC and intrinsic motivation;
2. The perception of despotic leadership is negatively correlated with OC and intrinsic motivation;
3. The perception of ethical leadership may be a predictor of intrinsic motivation mediated by OC;
4. The perception of despotic leadership may be a predictor of extrinsic regulation mediated by OC.

2.4 Procedures

Face-to-face contact was made with the directors of 30 secondary schools and groups of public schools in the north and center of the country, to whom the objectives were explained, and participation in the present study was requested. Following the acceptance of participation by the directors, the link was requested to be sent by email to all teachers. Additionally, the director placed the link to fill out the questionnaires on the online portal of each group. Teachers were also asked to forward the link to all colleagues under the same conditions. In the evaluation protocol sent, participants were informed about the objectives, the voluntary nature of their participation, and the confidentiality of the data collected.

Data collection took place between the months of August and November 2023, including the sociodemographic questionnaire, which requested the age, gender, and years of profession of the participants. A total of 204 valid questionnaires were collected. Subsequently, the data were analyzed using the Statistical Package for the Social Sciences (SPSS 22.0).

The statistical tests used in data analysis depended on the type of variable analyzed and/or the length of the assumptions for the use of parametric tests. When these assumptions were not verified, non-parametric tests were applied (Marôco, 2021).

3 Results

3.1 Reliability and validity of the scales

The Cronbach's alpha values allowed us to verify the internal consistency of each instrument, reflecting the reliability and stability of the measurements. The Cronbach's alpha values above 0.70 ($\alpha > 0.70$) indicate that the items within each scale consistently measure the same construct (Field, 2013). Observing Table 1, all constructs demonstrated

acceptable reliability, except for certain dimensions of commitment, which exhibited lower alpha values compared to adaptation studies. These deviations suggest possible contextual differences in how commitment is experienced and reported in this population.

To strengthen the validation process, further analyses beyond Cronbach's alpha were conducted, such as average variance extracted (AVE) and composite reliability (CR). AVE, a measure of convergent validity, was calculated for each construct, yielding an average value of 0.644, surpassing the recommended threshold of 0.50 (Fornell and Larcker, 1981a,b). This indicates that, on average, the constructs explain more than 50% of the variance in their observed variables, confirming that the items are highly correlated with their respective latent constructs.

The CR score of 0.90 further confirms that the constructs demonstrate strong internal consistency. CR values above 0.70 signify that the scale is reliable and that the indicators used to measure the latent variables are performing consistently across the sample. The high CR values across constructs underscore the robustness of the measurement model in capturing the intended psychological constructs.

3.1.1 Descriptive statistics and correlation analyses

As shown in Table 2, the constructs related to ethical leadership, identified regulation and affective commitment presented the highest mean scores, suggesting that these aspects are more pronounced in the participants' experiences. In contrast, amotivation and despotic leadership displayed the lowest levels, indicating their lesser prevalence in this context.

The correlational analysis revealed significant relationships between the core variables of the study. Specifically, ethical leadership was positively correlated with both intrinsic motivation ($r = 0.318$; $p < 0.01$) and OC ($r = 0.264$; $p < 0.01$). These moderate correlations suggest that higher perceptions of ethical leadership are associated with increased levels of intrinsic motivation and OC. According to Cohen's criteria (Cohen, 1988), the correlation between ethical

TABLE 1 Internal consistency values (cronbach's alpha).

	Studies and samples				
	Portuguese adaptation and validation	N	This study		N
			A	Average (SD)	
ELQ		316			204
Ethic	0.95		0.96	5.46 (1.06)	
Despotic	0.89		0.91	2.44 (1.28)	
MWMS		468			204
Amotivation	0.81		0.93	1.79 (1.43)	
Extrinsic motivation	0.74		0.90	2.37 (1.30)	
Identified regulation	0.74		0.77	6.14 (0.96)	
Introjected regulation	0.78		0.89	4.75 (1.42)	
Intrinsic motivation	0.88		0.89	5.26 (1.15)	
OCAS		461			204
Affective commitment	0.91		0.86	5.51 (1.11)	
Calculative commitment	0.84		0.72	3.69 (1.13)	
Normative commitment	0.91		0.75	4.29 (1.12)	

TABLE 2 Correlation strength between variables.

Variables	Motivation intrinsic	Organizational commitment	Extrinsic regulation
Ethical leadership	$r = 0.318^{**}, p < 0.01$	$r = 0.264^{**}, p < 0.01$	
Despotic leadership	$r = -0.276^{**}, p < 0.01$	$r = -0.177^{**}, p < 0.05$	$r = 0.233^{**}, p < 0.01$

leadership and intrinsic motivation represents a moderate effect, indicating that ethical leadership plays a meaningful role in enhancing motivation driven by internal satisfaction and interest.

The negative correlations between despotic leadership and both OC ($r = -0.177$; $p < 0.05$) and intrinsic motivation ($r = -0.276$; $p < 0.01$) further support the second hypothesis. Although these relationships are weaker, according to Cohen's guidelines, the significant results indicate that despotic leadership undermines both commitment and motivation, likely due to its coercive and controlling nature. These findings align with previous studies that emphasize the detrimental impact of despotic leadership styles on employee wellbeing and engagement (Hoogh et al., 2008).

The positive correlation between despotic leadership and extrinsic regulation ($r = 0.233$; $p < 0.01$) reflects that while despotic leadership may reduce intrinsic motivation, it can increase extrinsic motivation. This aligns with SDT, which posits that controlling leadership strategies may foster behaviors motivated by external rewards or avoidance of punishment (Ryan and Deci, 2000).

3.1.2 Regression analysis: ethical leadership as a predictor of motivation and commitment

In order to more rigorously test the hypothesized relationships, multiple regression analyses were conducted. The third hypothesis, which posited that ethical leadership is a significant predictor of intrinsic motivation and OC, was supported by the data, and the results revealed the following:

Ethical leadership was found to be a significant predictor of OC ($\beta = 0.22$, $SE = 0.06$, $p < 0.001$), indicating that leaders perceived as ethical foster stronger emotional attachment and loyalty toward the organization.

Commitment was also a significant predictor of intrinsic motivation ($\beta = 0.22$, $SE = 0.09$, $p < 0.01$), suggesting that committed individuals are more likely to be intrinsically motivated, driven by personal interest and satisfaction, rather than external rewards.

Directly, ethical leadership was a significant predictor of intrinsic motivation ($\beta = 0.36$, $SE = 0.07$, $p < 0.001$), supporting the idea that ethical leadership can enhance motivation by fostering an environment where employees feel valued, respected, and empowered.

The mediation model showed that, after controlling for OC as a mediator, the effect of ethical leadership on intrinsic motivation decreased from $\beta = 0.36$ to $\beta = 0.31$ ($SE = 0.08$, $p < 0.001$), consistent with partial mediation. This indicates that while ethical leadership has a direct impact on intrinsic motivation, part of its effect is channeled through the influence of OC.

The overall model explained 12% of the variance in intrinsic motivation ($\text{Adj}R^2 = 0.12$, $F(2, 201) = 14.45$, $p < 0.001$). Although this may seem modest, it represents a meaningful portion of the variance, as intrinsic motivation is a complex construct influenced by multiple factors. According to Cohen et al.'s (2003) effect size guidelines, this can be considered a moderate effect, providing strong evidence that ethical leadership plays a key role in enhancing intrinsic motivation through its impact on OC.

A post-hoc power analysis further confirmed the adequacy of the sample size, with a power level of 0.95. This indicates that the study had a 95% chance of detecting the effects of ethical leadership on intrinsic motivation, providing strong confidence in the robustness of the results.

3.1.3 Testing for mediation: despotic leadership and extrinsic regulation

To test the fourth hypothesis, which explored whether OC mediates the relationship between despotic leadership and extrinsic regulation, another set of regression analyses was conducted. Although despotic leadership was found to be a significant predictor of OC ($\beta = -0.13$, $SE = 0.05$, $p < 0.05$), commitment did not fully mediate the relationship between despotic leadership and extrinsic regulation.

Despotic leadership remained a significant predictor of extrinsic regulation even after controlling for OC ($\beta = 0.30$, $SE = 0.08$, $p < 0.001$). This suggests that while despotic leadership weakens OC, it directly encourages behavior motivated by external rewards or avoidance of punishment, consistent with SDT's conceptualization of extrinsic motivation (Ryan and Deci, 2000).

The model explained 8% of the variance in extrinsic regulation ($\text{Adj}R^2 = 0.08$, $F(2, 201) = 9.88$, $p < 0.001$), with the effect size considered small according to Cohen's guidelines (Cohen et al., 2003). This small effect reflects the complexity of extrinsic regulation, which may be influenced by a variety of factors beyond leadership style.

4 Discussion and conclusion

This study aims to explore the relationships between ethical leadership, OC, and intrinsic motivation within an educational context. The findings suggest that ethical leadership significantly enhances both intrinsic motivation and OC among educational staff, highlighting the importance of ethical practices in fostering positive outcomes in schools. This aligns with the existing literature on the role of ethical leadership (Hartog et al., 2009; Yukl et al., 2011), indicating that ethical leadership not only promotes a supportive environment but also contributes to teachers' emotional investment in their roles.

4.1 Reliability and validity of the scales

The Cronbach's alpha values confirmed the internal consistency of each instrument, reflecting the reliability and stability of the measurements. Values above 0.70 ($\alpha > 0.70$) indicate that the items within each scale consistently measure the same construct (Field, 2013). In observing the results, all constructs demonstrated acceptable reliability, except for certain dimensions of commitment, which exhibited lower alpha values than adaptation studies. These deviations suggest contextual differences in how commitment is experienced and reported within this population.

Additional analyses, such as AVE and CR, were performed to validate the scales further. The AVE for the constructs was calculated to be 0.644, surpassing the recommended threshold of 0.50 (Fornell and Larcker, 1981a,b), indicating that the constructs explain more than 50% of the variance in their observed variables. The CR score of 0.90 confirms that the constructs demonstrate strong internal consistency, highlighting the robustness of the measurement model in capturing the intended psychological constructs.

4.2 Descriptive statistics and correlation analyses

As shown in the descriptive statistics, the constructs related to ethical leadership, identified regulation, and affective commitment presented the highest mean scores, suggesting that these aspects are more pronounced in the participants' experiences. In contrast, amotivation and despotic leadership displayed the lowest levels, indicating their lesser prevalence in this context.

The correlational analysis revealed significant relationships between the core variables of the study. Ethical leadership was positively correlated with both intrinsic motivation ($r = 0.318$; $p < 0.01$) and OC ($r = 0.264$; $p < 0.01$), indicating that higher perceptions of ethical leadership are associated with increased levels of intrinsic motivation and OC. According to Cohen's criteria (Cohen, 1988), these correlations reflect meaningful effects, emphasizing the role of ethical leadership in enhancing motivation driven by internal satisfaction and interest.

Conversely, the negative correlations between despotic leadership and both OC ($r = -0.177$; $p < 0.05$) and intrinsic motivation ($r = -0.276$; $p < 0.01$) support the hypothesis that despotic leadership undermines commitment and motivation. These findings align with existing literature highlighting the detrimental impact of despotic leadership styles on employee wellbeing and engagement (Hoogh et al., 2008). Additionally, the positive correlation between despotic leadership and extrinsic regulation ($r = 0.233$; $p < 0.01$) suggests that while it may reduce intrinsic motivation, it can simultaneously increase behaviors motivated by external rewards.

4.3 Regression analysis: ethical leadership as a predictor of motivation and commitment

To rigorously test the hypothesized relationships, multiple regression analyses were conducted. The third hypothesis posited that ethical leadership is a significant predictor of intrinsic motivation and OC. The results confirmed this, with ethical leadership emerging as a significant predictor of OC ($\beta = 0.22$, $SE = 0.06$; $p < 0.001$) and intrinsic motivation ($\beta = 0.36$, $SE = 0.07$; $p < 0.001$). Additionally, commitment was identified as a significant predictor of intrinsic motivation ($\beta = 0.22$, $SE = 0.09$; $p < 0.01$). The mediation model indicated that the effect of ethical leadership on intrinsic motivation decreased from $\beta = 0.36$ to $\beta = 0.31$ when controlling for OC, reflecting partial mediation.

The overall model explained 12% of the variance in intrinsic motivation ($\text{Adj}R^2 = 0.12$, $F(2, 201) = 14.45$, $p < 0.001$). Although this may seem modest, it represents a meaningful portion of the variance,

highlighting the complexity of intrinsic motivation. A *post-hoc* power analysis confirmed the adequacy of the sample size, revealing a power level of 0.95, indicating strong confidence in the robustness of the results.

4.4 Testing for mediation: despotic leadership and extrinsic regulation

The fourth hypothesis examined whether OC mediates the relationship between despotic leadership and extrinsic regulation. The analyses indicated that despotic leadership is a significant predictor of OC ($\beta = -0.13$, $SE = 0.05$; $p < 0.05$) but did not fully mediate the relationship between despotic leadership and extrinsic regulation. Despotic leadership remained a significant predictor of extrinsic regulation even after controlling for OC ($\beta = 0.30$, $SE = 0.08$; $p < 0.001$). This suggests that while despotic leadership weakens OC, it directly encourages behaviors motivated by external rewards, consistent with SDT (Ryan and Deci, 2000).

The model explained 8% of the variance in extrinsic regulation ($\text{Adj}R^2 = 0.08$, $F(2, 201) = 9.88$, $p < 0.001$), reflecting the complexity of extrinsic regulation, which may be influenced by various factors beyond leadership style.

Overall, this research indicates that school leaders can increase teachers' motivation and commitment by adopting ethical leadership practices and fostering a positive organizational climate. As a result, this study serves as a significant contribution to the literature on leadership in educational contexts, particularly regarding the ethical dimensions of leadership. It highlights the need for future research that examines the relationships between ethical leadership, commitment, and motivation in diverse educational settings, especially in the Portuguese context, where empirical studies on these variables remain limited. Investigating differences in perceptions between principals and non-principal teachers could also yield valuable insights into the dynamics of ethical leadership in schools.

Ultimately, this study represents an important contribution to the discourse on leadership within educational settings, particularly concerning the ethical dimension of leadership. It emphasizes the need for future research that explores the relationships between ethical leadership, commitment, and motivation in various educational contexts, particularly in Portugal, where empirical studies on these variables remain limited. Investigating the differences in perceptions between principals and non-principal teachers could provide deeper insights into the complexities of ethical leadership and its impact on educational dynamics, revealing distinct challenges and opportunities for school leaders.

4.5 Limitations

This study is limited by its focus on a specific educational context, which may restrict the generalizability of the findings to other settings, particularly outside of Portugal. Additionally, while it emphasizes the ethical dimension of leadership, it does not fully account for other influencing factors, such as cultural, socioeconomic, or political variables, that might also shape leadership behaviors and perceptions in schools. The reliance on self-reported data may introduce bias, as participants could

be influenced by social desirability or personal experiences when responding to questions regarding leadership practices.

5 Future research directions

Future research should expand the investigation into the relationship between ethical leadership, commitment, and motivation across different educational contexts and cultures. Specifically, exploring these variables in diverse geographic regions within and outside of Portugal could provide a more comprehensive understanding of how ethical leadership functions in varying educational environments. Moreover, comparing the perceptions of ethical leadership between principals and non-principal teachers, as well as other stakeholders, such as students and parents, could uncover nuanced insights into how leadership is experienced across different levels of the educational system. Additionally, longitudinal studies could be conducted to observe how ethical leadership evolves over time and how it influences school outcomes in the long term.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

Ethical review and approval was not required for the study on human participants in accordance with the local legislation and institutional requirements. Written informed consent from the participants was not required to participate in this study in accordance with the national legislation and the institutional requirements.

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

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Fostering a productive educational environment: the roles of leadership, management practices, and teacher motivation

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This study explores the relationships between Principal's Leadership, School Management Practices, Teacher Motivation, and Teacher Performance. This study uses a quantitative methodology and takes the form of the questionnaires as the data collection instrument. The teacher served as the focus of this investigation, while the leadership and administration skills of junior high school principals served as the study's target. This study employed using Smart Partial Least Squares (PLS) to analyze how these factors interact and influence educational outcomes. The research employed Smart PLS to model and evaluate the complex relationships between these variables, highlighting the significant roles of leadership and management in shaping teacher effectiveness and overall school performance. The findings reveal that Principal's Leadership significantly enhances both Teacher Motivation and Teacher Performance, underscoring the critical role of effective leadership in inspiring and improving teacher performance. In contrast, School Management Practices were found to significantly impact Teacher Performance but did not significantly affect Teacher Motivation, suggesting that management practices alone may be insufficient to boost motivation levels among teachers. Teacher Motivation was identified as a key driver of Teacher Performance, emphasizing that motivated teachers are more likely to perform at higher levels. The study advocates for a comprehensive approach that integrates strong leadership, effective management practices, and targeted strategies to enhance teacher motivation and performance. The research provides valuable insights and guidance for educators and administrators aiming to foster a productive educational environment.

KEYWORDS

teacher performance, principal leadership, teacher motivation, school management, educational environment

1 Introduction

1.1 Education in Indonesia and Aceh

Education in Indonesia is greatly influenced by diverse geographical conditions, covering thousands of islands, mountainous areas, forests, and remote islands (Astari et al., 2024; Amin and Hermanto, 2022). Urban areas such as Java Island have better access to education due to the availability of infrastructure, technology, and qualified educators. In contrast, remote areas

in eastern Indonesia face access challenges due to difficult transportation and lack of educational facilities. To reduce this gap, the government launched programs such as scholarships for disadvantaged areas and the construction of distance schools (Harahap et al., 2024; Idris and Suroto, 2023). The leadership of educational institutions in Aceh is a strategic factor in answering geographical challenges. In urban areas such as Banda Aceh, leadership can focus more on technology integration and curriculum innovation. Meanwhile, in inland areas, school principals are required to overcome the limitations of facilities by building collaboration networks, finding creative solutions to transportation constraints, and motivating teachers to be willing to work in remote areas. Leadership that is adaptive to local needs is the key to success.

In Aceh, education has unique characteristics that are influenced by a history of conflicts, natural disasters, and a strong Islamic culture. The post-tsunami reconstruction of 2004 brought significant progress in educational infrastructure, especially in Banda Aceh as a major education center (Mujiburrahman, 2012). However, inland areas still face limitations in access to educational facilities. Religion-based education is a characteristic in Aceh, where educators play an important role in educating the community. However, challenges such as teacher distribution, limited infrastructure, and uneven Internet access are still major concerns.

In the geographical context, Aceh Besar Regency has a strategic position to support the development of a productive educational environment. The district is directly adjacent to Banda Aceh City, the center of education in Aceh province, as well as covering rural and coastal areas that present different challenges. Urban areas in Aceh Besar can take advantage of their proximity to Banda Aceh to support educational development, while rural and coastal areas need more attention in terms of resource distribution and infrastructure development. A combination of local strategies and national support is a way to improve the quality of education evenly throughout Aceh.

1.2 The importance of the role of teachers and challenges in improving the quality of education

Teachers play a central role in determining the success of education (Alvaré, 2018), both in the context of Indonesia in general and in Aceh. As agents of change, teachers not only transfer knowledge but also shape the character and skills needed by students to thrive in society. In Aceh, where education is heavily influenced by geographical, cultural, and social factors, teachers have a greater responsibility in bridging the various challenges that exist. One of the key tactics believed to be effective is the use of evidence to encourage experimentation and teamwork (Ainscow, 2023). According to Indonesian Government Regulation Number 74 of 2008, the main responsibility of teachers includes educating, teaching, guiding, training, assessing, and evaluating students based on formal education levels. To become a professional teacher, criteria such as teaching talent, deep expertise, mental and physical health, and extensive experience are required. However, the quality of teachers at various levels of education is still a major challenge that affects the overall quality of education. The relationship between low teacher quality and low student educational outcomes reflects a stagnant education system that is difficult to adapt to reform.

In addition, the leadership factor of the school principal who is less innovative also worsens the situation. Therefore, it is important to recruit and retain high-performing teachers who have a high attitude of discipline, responsibility, and dedication to their work. Professional teachers must have talent as educators, expertise as teachers, superior and integrated competencies, healthy mentality, physical fitness, and extensive experience and knowledge (Rechsteiner et al., 2022). Various trainings, upskilling programs, and teacher certifications will continue to support this initiative. A teacher who performs well must have a positive attitude toward his work, such as being disciplined, maintaining the quality of his work, being responsible, and having high dedication (Yada et al., 2021).

The improvement of teacher performance is influenced by several key factors. Continuous professional development, supportive leadership, and access to adequate resources enable teachers to enhance their skills and effectiveness (Iqbal and Ali, 2024). Additionally by Harris and Muisj (2005), motivation, job satisfaction, collaboration with peers, and constructive feedback from students contribute significantly to improving teaching practices. Reflective practices also play an important role, allowing teachers to assess and adapt their methods for better outcomes. Together, these factors create an environment that fosters growth, engagement, and continuous improvement in teaching. It is important to find solutions so that the challenge of improving the quality of education, especially at the junior high school level in Aceh Besar, can be overcome immediately. This study highlights that one of the keys to improving the quality of education is to increase the efficiency and effectiveness of teachers through the support of school principals and good education management.

1.3 School-based education reform

Education reform in Indonesia aims to shift the education quality management system from a centralized approach to a school-based system (Jihan et al., 2023). This approach prioritizes autonomy and democratic decision-making, which allows principals and administrators to make optimal use of available resources. In this system, school principals are expected to be able to function as effective leaders and managers by emphasizing efficiency, productivity, and creativity in education management. The goal of education reform is to move from a centralized quality management system to school-based quality control. The School-Based Quality Improvement Management System, which aims to improve educational standards, is based on autonomy and democratic decision-making (Rini et al., 2020).

The success of the implementation of this reform depends on the active participation of school principals, teachers, administrators, parents, and the community (Zamili, 2021). In addition, education supervisors need to adopt new practices and attitudes that support the success of these programs. School principals who have good managerial skills are expected to improve the quality of education through efficient and effective resource management, as well as provide inspiration and direction for educators. This understanding suggests that schools have greater authority to manage themselves because they are more aware of the strengths, weaknesses, opportunities, and threats they have, so that they can utilize the resources available to improve their schools (Pont et al., 2008).

Principals, teachers, administrators, parents, and community members must attend, understand, and be involved in its implementation (Rechsteiner et al., 2022). Furthermore, for implementation in schools to be successful, supervisors who conduct monitoring and evaluation must change their behavior and practices (Moreno-Casado et al., 2022).

1.4 The relationship between principal leadership and teacher effectiveness

In the implementation of educational administration, school principals must consider efficiency, effectiveness, productivity, and creativity. Improving the quality of educational institutions is essential, with a focus on the effectiveness of inputs, the quality of human resources related to the structure, and management efficiency. These factors continue to affect the quality produced. The managerial ability of the principal must be improved to improve the quality of school education and get the necessary support (Schott et al., 2020). Therefore, the principal must be able to carry out his duties and responsibilities to the best of his ability and play his role as a leader and manager accordingly. In addition, the school itself acts as a catalyst for change, meaning that the principal, if he wants the school he manages to be more successful, must first be aware of this fact and then work to improve his ability to implement change (Shen et al., 2020).

Principal effectiveness is one of the important features, and there is a direct link between effective principal leadership and management and overall teacher performance improvement (Denston et al., 2022). Teacher effectiveness includes several indicators, such as the quality of the learning process, the effectiveness and efficiency of learning, the development of professionalism, innovation, productivity in educational activities, professional ethics, and involvement in work. Meanwhile, the leadership performance of school principals is measured based on their ability to provide influence, empowerment, mobility, inspiration, leadership, and commitment to transparent, independent, collaborative, and sustainable management development.

The main focus of this study is the correlation between school principals, management performance, and teacher effectiveness. Performance as a teacher includes characteristics such as the quality of the learning process, effectiveness and efficiency of learning, professional development and teaching innovation, productivity in education, writing, *service learning*, professional ethics, and work engagement. The principal's leadership performance includes his or her functions and duties in elaborating, professionalism, empowerment, mobility, inspiration, leadership, and teaching, as well as developing a commitment to high-level management performance in terms of openness, independence, cooperation, accountability, and sustainability.

2 Literature review

The term "teacher performance" refers to the level of work (Merle et al., 2022). In terms of quality and quantity, a teacher produces as a direct result of leadership and management. The school principal provides in order for the school as a whole to meet its objectives. The quality of the school is directly correlated to the quality of the teachers

and the principal's leadership. The principal's role in fostering a positive school culture is crucial for influencing climate, boosting teacher collaboration, and improving student outcomes through trust, respect, and growth. The teacher's primary responsibility is to instruct and direct pupils toward successful student learning; additional duties include community service and research (de Jong et al., 2022).

Meanwhile, the teaching process's quality is a picture of the results of the teacher's implementation of learning activities about the primary job he is carrying out. The case since the learning activities are related to the main task demonstrates how focused and relevant instructional strategies enhance student engagement and support the achievement of learning objectives. The educator's capacity to devise effective instructional plans is a critical factor in determining the level of student achievement (Locke et al., 2021). Alternately, they carry out practice in the form of lesson units, present the program, carry out learning or practice evaluations, compile and implement improvements and enrichment, and maintain discipline while completing their assignments. The degree to which learning goals are accomplished is referred to as learning effectiveness. This efficacy can be shown in several ways, including the fact that students can readily absorb the teachings taught by their teachers, that an improvement in student accomplishment is possible, and that teachers can apply appropriate learning methods. The term "learning efficiency" refers to a comparison between the input and output of the learning process (Yada et al., 2021). This comparison can be seen in savings, effort, time, and costs the instructor experiences when learning to attain the best possible results. This efficiency is characterized by the teacher's capacity to choose the proper means of presenting learning content, students' capacity for lessons, the achievement of subject matter completion after the semester, and efficient use of learning time (Woodcock et al., 2022).

Acquiring a bachelor's degree and being as a model educator are two indicators of success in education and teaching fields. They direct the learning process or practice of other teachers, designing a grid of questions, compiling questions, overseeing and examining final exams, and encouraging innovation in the classroom (de Jong et al., 2022). Making papers on the outcomes of studies or research, presenting papers at scientific discussion events, making textbooks or modules, and translating textbooks that are valuable for education are all indicators of a teacher's productivity in the domain of research. As a comparison, productivity in community service comprises teachers upgrading or teaching-learning packages to the community, teachers being engaged in social events, and instructors being active in religious activities organized by the community (Gullo and Beachum, 2020).

Professional attitude can be defined as the complete sense of individual derives from their employment, the workgroups they belong to, the leaders they report to, the organizations they are a part of, and their surrounding environment. Morality is concerned with people's wellbeing, pleasure, and satisfaction (Mlambo et al., 2020). As a result, good awareness among teachers of their obligations is one of the markers of work morale related to the impact of the principal's managerial abilities. The devotion to the principal is typically favorable, and the work discipline is exemplified by consistent classroom attendance and a high level of motivation among the teaching staff (Oeschger et al., 2022).

Leadership is essential not only in professional settings but also in academic settings like student organizations (Díez et al., 2020). Because of the many different groups that make up the school, it is

often called an organization. Gunn and McRae (2021) stated that there are aspects of human groups that collaborate to accomplish objectives, in this case, educational objectives. The principal, the teaching group, the employee group, and the student group are all components of the human group that function cohesively within the educational institution's context. Various categories can be used to classify cooperative connections within school, such as "a person or people who are responsible or assigned the responsibility of leading the principal" (Sharar and Nawab, 2020). As a result, school leadership is the result of a relationship between the principal as the person responsible for leading and groupings of teachers, administrative staff, parents, and students, the group being led (Collier et al., 2022).

In order to make the idea of principle Leadership clear, we are going to define the concept of Leadership as well as its various theories, processes, and types. Characteristics, personal conduct, influence on others, patterns of interaction, and cooperative relationships across roles contribute to effective leadership from an administrative perspective, these factors, along with the processes and others' judgments of the legitimacy of influence, shape how authority and leadership are perceived and enacted within the organization. Leadership is "an attempt that uses a leadership approach to influence rather than coerce individuals to achieve goals." In addition, Leadership can be defined as "the ability to persuade people or organizations to achieve goals" (Díez et al., 2020). Therefore, Leadership is how an individual employs a leadership style to exert influence over the activities of group members to achieve shared objectives.

According to the findings of this research, the concept of Leadership emphasizes the functions and duties of a leader. Those functions and duties are predicated on the principal's ability to influence and motivate the people he leads (the teachers) toward accomplishing school goals. The primary difficulty associated with Leadership may be broken down into three questions; What makes a leader effective? How a person becomes a leader? Furthermore, how a leader behaves? Studying leadership theory can be done using one of four techniques which are transactional and transformative leadership approach, correlation with leadership outcomes, evolution of leadership methodology, and correlation between leadership style and outcomes (Buckner et al., 2016) depending on which of these three issues is being asked: the authority influence approach, the situational approach.

This approach views the success of Leadership as sourced from the authority or power that exists in a leader. A leader's sources of authority or power come from reward power, position, or formal position of a leader (Brevik et al., 2019). With this positional power, a leader has that causes the willingness of subordinates to be loyal and willing to carry out the orders and wishes of the principal. Therefore, positional power gives rise to legitimacy power, coercive power, and reward power. At the same time, personal power or power is the influence that arises from a leader because he has personal characteristics, exemplary, and the expertise of the principal. This personal power gives birth to the referent and expert power (Iordăchescu, 2013). A leader, even though he has power (both positional and personal power), is not automatically able to influence subordinates if he cannot use it in his leadership process by considering the existing situation. Influencing subordinates can be done by giving instrumental compliance or imposing specific rules means the leader uses reward and coercive power on his subordinates. It means the leader uses expert power and identification or

identification of subordinates, which means the leader uses referent power.

This approach uses reference to personal traits and authority, described in terms of "patterns of activity," "roles of managers," or "categories of behavior" (Melgaard et al., 2021). With their nature and authority, a leader carries out the leadership process in various ways to form effective leadership. The purpose of this behavioral approach is to determine behavior related to effective Leadership. Thus, if the effective of a leader is obtained, then they will also be effective in any situation. This behavioral approach also emphasizes two leadership styles: task-oriented and employee-oriented (Bøe et al., 2022).

In connection with the leadership behavior above, put forward a three-dimensional theory of leadership behavior based on two essential components: task-oriented behavior and relationship-oriented behavior. To assess leadership abilities in education seeking to raise them to the level of other groups, leadership can be used to explain why a leader succeeds well in certain situations but not in others (Shen et al., 2021). In addition, it is very important for someone with a strong sense of charisma and relying on it to avoid adopting inappropriate leadership approaches in unfamiliar situations. The behavior of a leader has a working relationship that is personal and is characterized by mutual trust, respect for the ideas of subordinates, and tolerance for the role of his subordinates. The ability of the principal to influence, encourage, guide, direct, and mobilize other related parties, such as teachers, staff, students, and the parents of students, to work toward the accomplishment of the goals that have been established is an example of the principal's ability to exercise Leadership (Romijn et al., 2021).

According to what has been learned above, the Leadership of the principal discussed in this research is the principal's capacity to do the responsibilities associated with a duties leader, which is supported by the principal's leadership (Kontaş and Demir, 2015). School leaders have the following roles: those functions are those related to the objectives that are to be accomplished, those functions are those related to directing the execution of each activity, and those functions are those related to establishing an atmosphere at work (See, 2014). The first function suggests that the main assists groups (subordinates) in considering, selecting, and formulating their goals. The second function suggests that the principal is connected to the leader's operations to drive the group toward satisfying the o requirements. The third function means that school principals should be able to create an environment conducive to work, generate enthusiasm for work for anyone involved in the process of collaboration, increase work productivity, and obtain job satisfaction by employing the appropriate style of leadership.

The principal's ability to manage is to refer the principal's ability to apply management inputs by executing management tasks, such as organizing, arranging, supervising, managing, and reviewing to effectively and efficiently control human capital and other resources to achieve school goals (Masari and Petrovici, 2014). This ability to manage demonstrates that the principal performs the duties of a manager. Using all organizational resources and accomplishing organizational goals are three significant facets connected to the principal's role as a manager that is vital to consider (Petrovici, 2014). The procedure entails carrying out an activity in a methodical manner. The term "process" in this context refers to the usage of management inputs that the school principal must carry out. The usage of school resources includes cash, equipment, information, and human resources. The term "goal achievement" refers to the accomplishment of one or more desired ultimate goals effectively and efficiently (Reinius et al., 2022). As a result, the administrative capacity of the

principal consists of the implementation of planning, coordinating, monitoring, and evaluating educational resources to meet the school goals specified.

3 Method

This study uses a quantitative methodology and takes the form of a survey. The teacher served as the focus of this investigation, while the leadership and administration skills of junior high school principals served as the study's target. This study employs survey research.

3.1 Population and sample

The population of this study comprises all educators and principals of middle schools, totaling 119 individuals. The sample was taken using proportional random sampling. The researcher selects individuals who have had their numbers influenced to reflect the proportion of subject members in each group from each category in the population (Table 1). The characteristics of the study population can be described as follows:

The data in this study comprise secondary and primary data. Secondary data refer to sources that do not directly provide information for data collection. The utilization of secondary data serves as a support for obtaining performance data from related research articles, websites, and organizational documents (Sugiyono, 2019). Therefore, the researcher concludes that secondary data are additional information necessary for research purposes. Furthermore, primary data are data collected directly from the original source (Kothari, 2013). The data were collected using a questionnaire. The research questionnaire was interval data of the Rating Scale model.

3.2 Operational variables

Principal's Leadership and School Management Practices are effective leadership which fosters a supportive and inspiring work environment, while sound management practices provide structure and resources, both of which are theoretically linked to enhanced teacher motivation through increased job satisfaction and engagement (Nir and Kranot, 2006). While teacher motivation drives individuals to achieve goals, it is supported by empirical studies that link both intrinsic and extrinsic motivation to improved performance outcomes in educational contexts, fostering a more engaged and effective teaching environment (Han and Yin, 2016). On the another side, teacher performance, Leadership provides direction and vision, while management ensures operational efficiency, both of which are critical for creating an environment where teachers can perform effectively (Andriani et al., 2018). This linkage is grounded in organizational

behavior theories that emphasize the interplay between leadership, management, and employee performance.

3.3 Research variables

The research variables are described descriptively and correlatively. Variables are used in this study, including independent variables and dependent variables (Figure 1).

- Principal's Leadership (X1): This independent variable represents the leadership style and actions of the school principal. It directly influences both teacher motivation and teacher performance.
- School Management Practices (X2): This independent variable encompasses the strategies and practices used by the principal to manage the school. It also has a direct impact on teacher motivation and teacher performance.
- Teacher Motivation (Z): This mediating variable reflects the level of motivation among teachers, which is influenced by the principal's leadership and management practices. Teacher motivation, in turn, impacts teacher performance.
- Teacher Performance (Y): This dependent variable represents the overall effectiveness and performance of teachers in their roles. It is influenced directly by principal's leadership, school management practices, and indirectly through teacher motivation.

3.4 Research question

- Do the Principal's Leadership and School Management Practices both influence Teacher Motivation?
- Does the Teacher Motivation influence to Teacher Performance?
- Do the Principal's Leadership and School Management Practices effects on Teacher Performance?

3.5 Hypotheses

- Principal's Leadership and School Management Practices both influence Teacher Motivation.
- Teacher Motivation influenced to Teacher Performance.
- Principal's Leadership and School Management Practices effects on Teacher Performance.

This analysis is performed to discover the relationship model and the extent of influence of each independent variable on the dependent variable teacher performance (Table 2).

4 Results

4.1 Demographics respondent

The participants were also categorized based on their highest level of education. Among the male participants (42 total), the majority, 37, hold a Bachelor's degree, and only 5 have a Master's degree. On the other hand, among the female participants (77 total), 60 have a Bachelor's degree, and 17 have a Master's degree. While both male and female participants

TABLE 1 Characteristics of the research sample.

Sex		Education background	
M	F	Bachelor	Master
42	77	97	22

Source: Data analysis (2024).

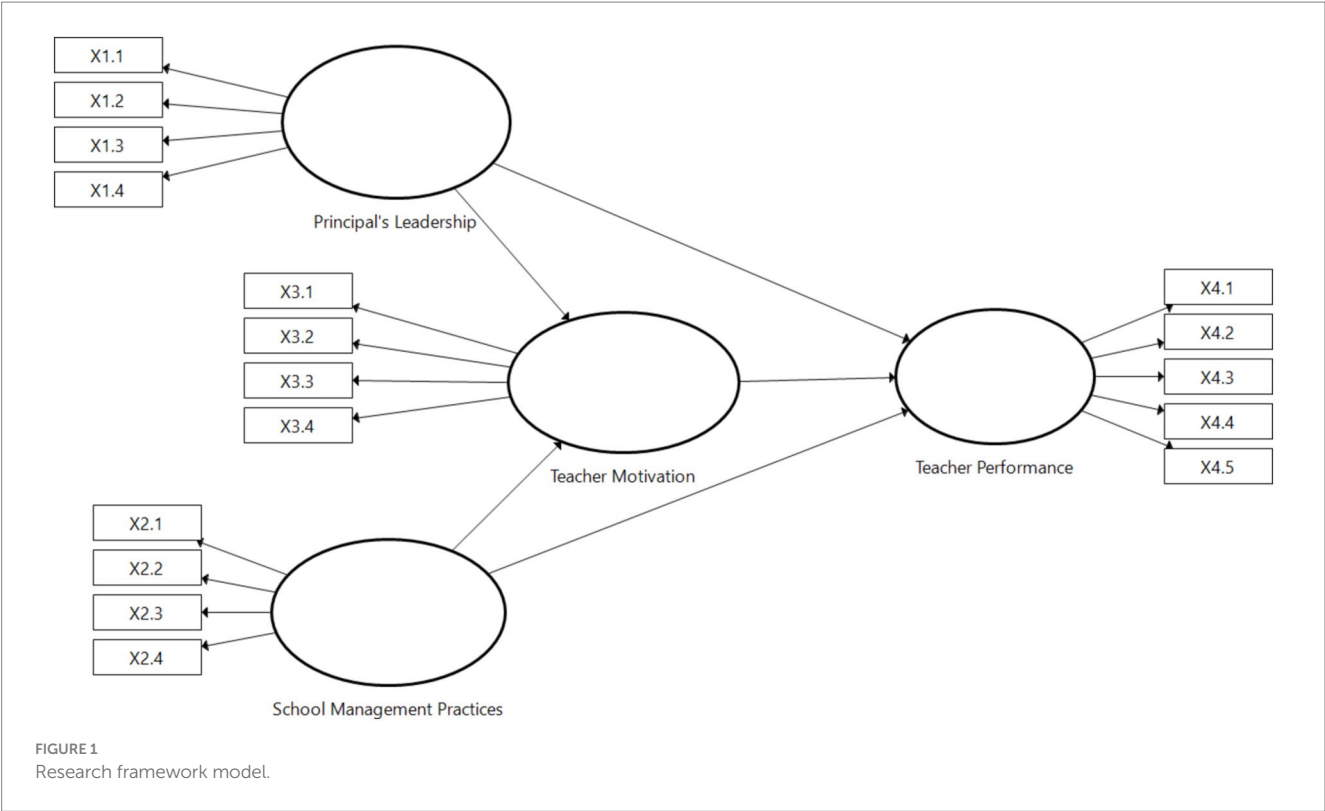


TABLE 2 Variables and aspects of questionnaire.

Variable	Aspects	Indicator
Principal's leadership	Innovation, and community service, professional attitude, monitoring	1–4
School management practices	Vision, mission transformation, empowerment, developing a commitment, planning	5–8
Teacher motivation	Rewards, promotion, confession	9–13
Teacher performances	Organizing, coordinating, evaluation, creativity	14–17

Source: Data analysis (2024).

predominantly hold a Bachelor's degree, a higher proportion of female participants (approximately 22%) possess a Master's degree compared to male participants (approximately 12%). The data show that the number of female participants (77) is higher compared to male participants (42). This indicates a significant gender disparity, with female participants making up a larger portion of the research sample. This disparity may suggest that female participants are more likely to participate in this study, or there could be certain factors influencing the gender distribution in the context of the study's focus. Some factors that may play a role include social roles, the level of female participation in the field being researched, or even a higher level of interest among females in the topic addressed in this study (Figure 2).

4.2 Reliability and validity

The reliability and validity of the constructs in this study are well-supported by the data, as demonstrated in Table 3. This means that the instruments used to collect data are both consistent (reliable) and accurately measure what they are intended to measure (valid). The validity and reliability testing ensures the credibility of the research findings and confirms that the conclusions drawn are based on sound data.

The variable Principal's Leadership demonstrates good reliability and validity, with a Cronbach's alpha of 0.789, composite reliability of 0.864, and an average variance extracted (AVE) of 0.614, indicating that the items used to measure this construct are consistent and capture a substantial amount of variance. School Management Practices stands out with the highest reliability and validity metrics, evidenced by a Cronbach's alpha of 0.891, composite reliability of 0.926, and an AVE of 0.758, showing that this construct is particularly strong in both consistency and explanatory power. Similarly, Teacher Motivation shows robust reliability and validity, with a Cronbach's alpha of 0.872, composite reliability of 0.913, and an AVE of 0.724, affirming the quality of its measurement. While Teacher Performance has slightly lower values, it still meets the acceptable criteria, with a Cronbach's alpha of 0.780, composite reliability of 0.852, and an AVE of 0.543, indicating that it is a reliable and valid measure. Overall, the results indicate that the measurement model used in this study is reliable and valid across all constructs, ensuring confidence in the findings.

4.3 Discriminant validity

The discriminant validity assessment for the variables in the study was conducted using the Fornell-Larcker criterion, as presented in

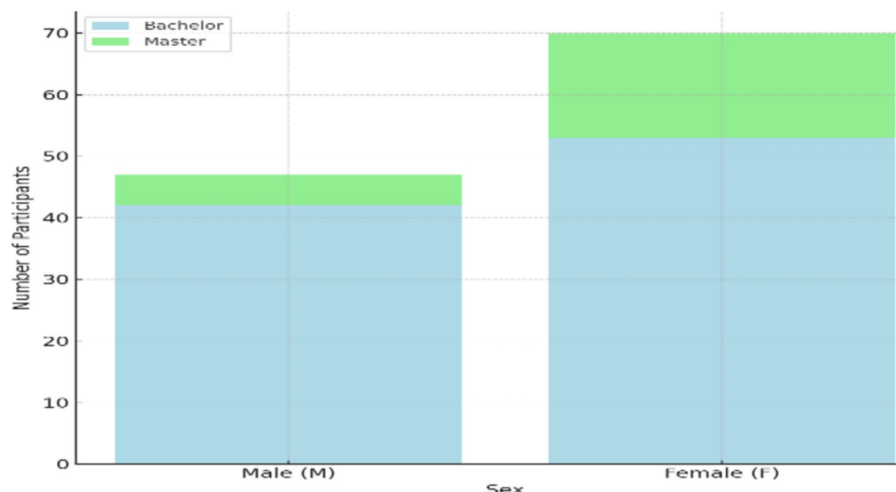


FIGURE 2
Sex and education background distribution.

TABLE 3 Reliability and validity.

Variable	Cronbach's alpha	Composite reliability	Average variance extracted (AVE)
Principal's leadership	0.789	0.864	0.614
School management practices	0.891	0.926	0.758
Teacher motivation	0.872	0.913	0.724
Teacher performance	0.780	0.852	0.543

Source: Data analysis (2024).

Table 4. This method compares the square root of the average variance extracted (AVE) for each construct with the correlations between constructs to ensure that each variable is distinct and not highly correlated with others.

Discriminant validity is confirmed when the square root of the average variance extracted (AVE) for each construct (diagonal values) is greater than the correlations between that construct and the others (off-diagonal values). Principal's Leadership has a square root of AVE of 0.784, which is higher than its correlations with other variables, indicating good discriminant validity. School Management Practices shows a square root of AVE of 0.871, which is also higher than its correlations with other constructs, confirming strong discriminant validity. Teacher Motivation has a square root of AVE of 0.851, surpassing its correlations with other variables, thus maintaining discriminant validity. Teacher Performance has a square root of AVE of 0.737, which, while slightly lower than some of its correlations, still generally supports discriminant validity. The discriminant validity for the constructs is generally acceptable, though some correlations, particularly between Teacher Performance and other variables, are relatively high, suggesting some overlap that may need further exploration.

4.4 Direct effect

After conducting the validity and reliability tests, the next step involves presenting the research findings on the direct effects. The analysis of direct effects provides insight into the relationships between

key variables in the study, highlighting how certain factors directly influence others. By examining the mean coefficients, *T*-values, and *p*-values, the study evaluates the strength and significance of these direct relationships, offering a deeper understanding of the dynamics at play between Principal's Leadership, School Management Practices, Teacher Motivation, and Teacher Performance (Table 5).

The analysis of direct effects in the study reveals several significant relationships between the variables. Principal's Leadership positively influences Teacher Motivation with a significant mean coefficient of 0.422, a *T*-value of 2.317, and a *p*-value of 0.021, indicating that strong leadership is crucial in motivating teachers (Figure 3).

In addition, Principal's Leadership has a significant positive impact on Teacher Performance, with a mean coefficient of 0.388, a *T*-value of 3.242, and a *p*-value of 0.001, suggesting that effective leadership directly enhances teacher performance.

In contrast, the relationship between School Management Practices to Teacher Motivation is not significant, as evidenced by a mean coefficient of 0.164, a *T*-value of 0.925, and a *p*-value of 0.356. This finding implies that, within this study, school management practices alone may not be sufficient to significantly boost teacher motivation. However, School Management Practices do have a significant positive effect on Teacher Performance, with a mean coefficient of 0.537, a *T*-value of 4.133, and a *p*-value of 0.000, highlighting the importance of effective management in improving teacher performance (Figure 4).

Finally, Teacher Motivation significantly contributes to Teacher Performance, as indicated by a mean coefficient of 0.144, a *T*-value of

TABLE 4 Discriminant validity results.

Variable	Principal's leadership	School management practices	Teacher motivation	Teacher performance
Principal's leadership	0.784			
School management practices	0.836	0.871		
Teacher motivation	0.553	0.515	0.851	
Teacher performance	0.839	0.859	0.586	0.737

Source: Data analysis (2024).

TABLE 5 Result analysis of direct effects.

Variable	Mean	STDEV	T-values	p-values	Confirm
Principal's leadership > teacher motivation	0.422	0.176	2.317	0.021	Accepted
Principal's leadership > teacher performance	0.388	0.124	3.242	0.001	Accepted
School management practices > teacher motivation	0.164	0.187	0.925	0.356	Rejected
School management practices > teacher performance	0.537	0.126	4.133	0.000	Accepted
Teacher motivation > teacher performance	0.144	0.057	2.423	0.016	Accepted

Source: Data analysis (2024).

2.423, and a *p*-value of 0.016, emphasizing that motivated teachers are more likely to perform better. Overall, the results underscore the pivotal roles of Principal's Leadership and School Management Practices in enhancing teacher performance, while also recognizing the importance of teacher motivation in achieving optimal performance.

5 Discussion

The findings highlight the critical role of Principal's Leadership in directly enhancing both Teacher Motivation and Teacher Performance, underscoring the need for strong and effective leadership in schools. Similarly, School Management Practices significantly contribute to Teacher Performance, demonstrating the importance of structured and efficient management systems. However, their lack of influence on Teacher Motivation indicates a potential gap in addressing motivational aspects through management practices. Teacher Motivation has a smaller but significant positive impact on Teacher Performance, suggesting it serves as an important but secondary factor. This highlights the need for schools to integrate motivational strategies within leadership and management frameworks to maximize teacher performance outcomes.

Principal's Leadership plays a direct role in improving teacher performance. This finding is similar to that found by [Pardosi and Utari \(2022\)](#), whose study results indicate that principal leadership behaviors, analyzed through the dimensions of leadership and follower relations, task structure, and leadership positions, were highly effective. This implies that, beyond motivating teachers, strong leadership also directly influences how effectively teachers perform their duties. This implies that beyond motivating teachers, strong leadership also directly influences how effectively teachers perform their duties. These results are also supported by [Rahman et al. \(2020\)](#), whose study demonstrates that school principal leadership, teacher performance, and internal quality assurance methods significantly improve educational quality.

Principals who lead with clarity, purpose, and support can positively impact the quality of teaching, ultimately benefiting the entire school community. Conversely, the correlation between School

Management Practices and Teacher Motivation appears to be less significant. Based on the result of [Abidogun \(2023\)](#), which states that there is no significant difference between teachers' motivation and job performance, this hypothesis is rejected. The findings suggest that teachers' motivation does have an impact on their job performance, contrary to the assertion made in the previous study. The ability to conduct in a specific manner is based on the energy of the expectation that the act would be followed by a specified outcome at the brilliance of the outcome to an individual. The concept argues that instructors will be driven to deliver their best if they believe that productivity will result in the desired outcome. Expanded effort will result in increased overall performance. This implies that gratification from the initial effort must be efficaciously stunning or equitable to make the time worthwhile.

This suggests that although the teachers generally perceived themselves as having a relatively high level of autonomous motivation, some of their motivational reasons for engaging in teaching were externally controlled ([Irnidayanti et al., 2020](#)). Management practices, while important, may not be the primary driver of teacher motivation in this context. Other elements, possibly including leadership, personal incentives, or external factors, might be more influential in motivating teachers to perform at their best. School Management Practices significantly affect Teacher Performance. Well-structured management practices that provide clear expectations, support, and resources are crucial for ensuring that teachers can perform at their highest potential.

Teacher Motivation itself is a significant contributor to Teacher Performance. When teachers are motivated, they are more likely to engage fully with their work, exhibit greater commitment, and achieve higher performance levels. This underscores the importance of fostering a motivating environment as motivated teachers are key to achieving better educational outcomes. This highlights the importance of effective management practices in creating an environment where teachers can thrive and perform their roles efficiently. In line with [Hans and Hans \(2017\)](#) create routines for entering the gym or outdoor play area, setting up equipment, starting games, putting equipment away, and exiting the class. As suggested by [Nachshoni \(2024\)](#) most principals responded by encouraging teachers to enhance motivation, having

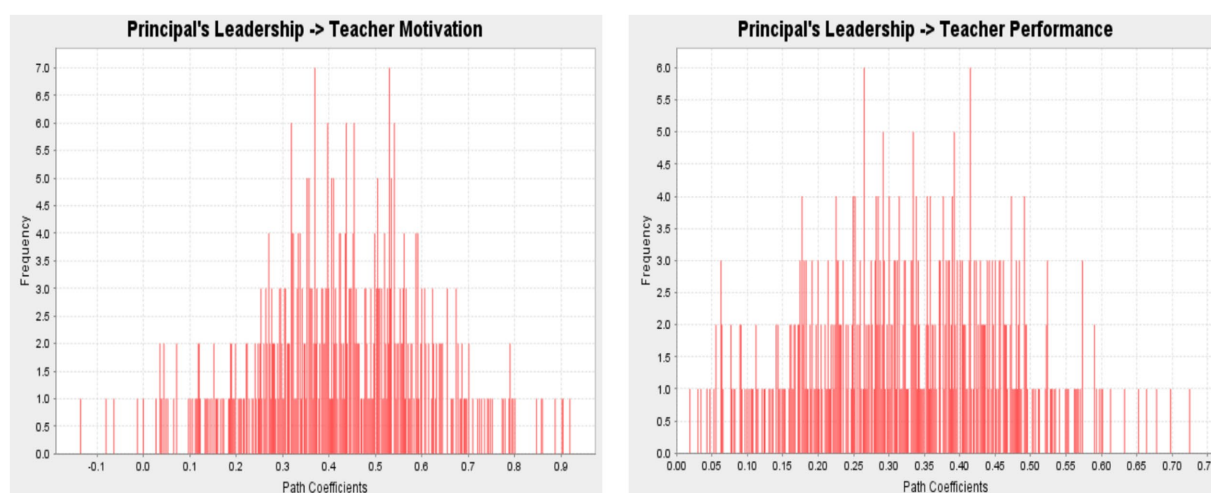


FIGURE 3
Graphic of the effect principal leadership.

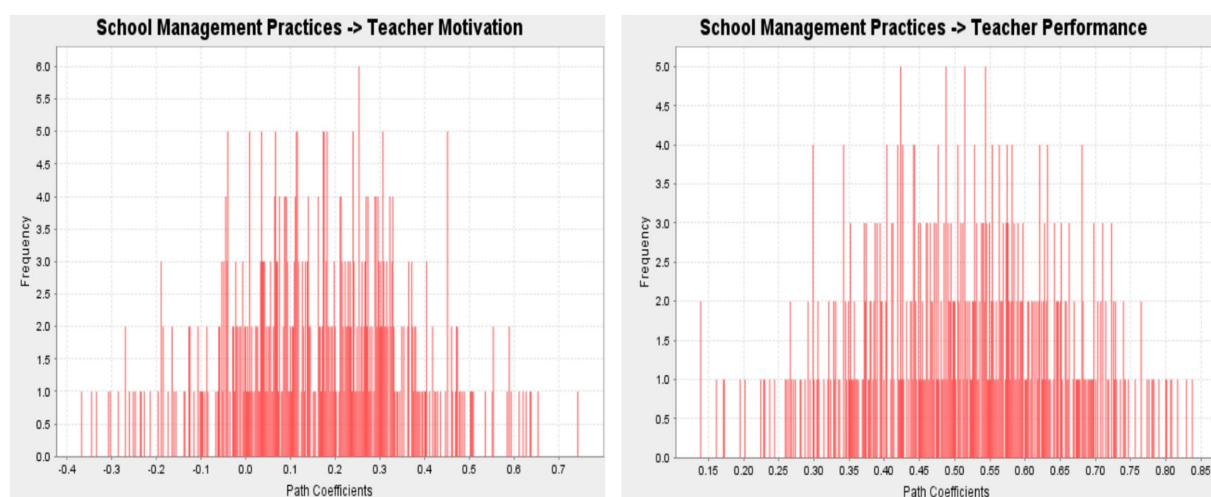


FIGURE 4
Graphic of the school management practices.

motivational conversations, lending an ear, and offering aid as required. Our goal is to foster positive relationships with teachers, empower them to take initiative and achieve success, and motivate them to come to school with enthusiasm. Allow instructors to pursue their ambitions and offer funding for those who think beyond the box. Motivation, in the perspective of the principal, is a crucial and required driving factor for renewal, to motivate people to come to work with enthusiasm in order to achieve self-actualization, to allow children to express their abilities, to foster a positive and enjoyable environment in educational activities, and to provide them with freedom of action.

The study emphasizes the critical roles that both Principal's Leadership and School Management Practices play in enhancing teacher performance. While leadership is crucial for both motivating teachers and improving their performance, management practices primarily impact performance. This result is found in line with the suggestion by Akhtar and Akhtar (2024). High leadership qualities may enhance teacher effectiveness, while low leadership qualities

may have the reverse impact (most participants agreed). This distinction is important for educational administrators to consider when devising strategies to enhance teacher outcomes. In addition, the significance of Teacher Motivation in driving performance highlights the need for schools to invest in initiatives that boost motivation. Whether through professional development, recognition programs, or fostering a supportive work environment, motivated teachers are essential to a successful educational experience.

The principal's leadership style has an impact on teachers' perceptions of their profession, their willingness to actively engage, and teachers' initiatives related to teaching. This also influences positive perceptions of their profession and teachers' initiatives related to teaching (Berhanu, 2023). Schools with higher levels of instructional leadership will have better teacher performance, commitment to the school, teaching jobs, and teaching groups (Wasserman et al., 2016). Pedagogical leadership is positively related to teacher commitment, which enhances job performance. Pedagogical leadership is a protective factor that

indirectly influences the teacher's job performance index through commitment. Teacher performance is supported by school principal leadership (Jelagat Yego et al., 2020). This research indicates that leadership and performance management are related to teacher performance. The management performance of the school principal stands out more than the leadership performance of the school principal. Leadership and performance management are two essential aspects in managing teacher performance in a school. Effective leadership enables the school principal to inspire, guide, and provide direction to teachers in achieving the school's goals together. This involves the ability to motivate, support, and facilitate the professional development of teachers, as well as creating a positive and collaborative work environment.

In summary, the study suggests that a holistic approach, combining strong leadership, effective management, and targeted efforts to enhance teacher motivation, is vital for improving teacher performance. By addressing these areas, schools can create a supportive environment that not only nurtures teachers' professional growth but also leads to better outcomes for students. The leadership of a principal can have a significant impact on teacher performance. An effective principal is able to provide appropriate support, clear guidance, and incentives that motivate teachers to improve their performance. There is a significant relationship between the leadership of the principal and teacher performance (Kaso et al., 2019). The leadership of the principal plays a role in shaping a school culture that supports the growth and professional development of teachers. An inclusive culture, result-oriented, and supportive of collaboration among teachers can enhance overall performance.

6 Conclusion

This study delves into the direct effects among Principal's Leadership, School Management Practices, Teacher Motivation, and Teacher Performance, offering key insights into how these factors interrelate and influence each other. Understanding these relationships is crucial for educational leaders aiming to optimize teacher performance and overall school success. The findings indicate that Principal's Leadership significantly enhances both Teacher Motivation and Teacher Performance. Effective leadership is essential in motivating teachers, fostering a positive work environment where teachers feel inspired and engaged. This relationship suggests that when principals exhibit strong leadership qualities, it directly translates into higher levels of motivation among teachers, which is vital for creating an energetic and productive educational setting.

The study provides valuable insights into the relationships between Principal's Leadership, School Management Practices, Teacher Motivation, and Teacher Performance. By examining how these variables interact, the research highlights key factors that influence teacher effectiveness and overall school performance. The findings underscore the critical roles of leadership and management in shaping teacher outcomes and offer guidance on optimizing these aspects to foster a more productive educational environment. Key findings include the following:

- 1 Principal's Leadership significantly enhances both Teacher Motivation and Teacher Performance. Effective leadership is crucial for inspiring teachers and improving their performance.
- 2 School Management Practices positively impact Teacher Performance but do not significantly affect Teacher Motivation, suggesting that management practices alone may not be enough to boost teacher motivation.
- 3 Teacher Motivation plays a significant role in improving Teacher Performance. Motivated teachers are more likely to perform at higher levels, highlighting the need for initiatives that foster motivation.

A comprehensive approach that integrates strong leadership, effective management practices, and targeted strategies to enhance teacher motivation is essential for improving teacher performance and achieving better educational outcomes.

Data availability statement

The datasets presented in this study can be found in online repositories. The names of the repository/repositories and accession number(s) can be found in the article/supplementary material.

Ethics statement

The studies involving humans were approved by Dr. Lili Kasmini, M.Si/Bina Bangsa Getsempena University. The studies were conducted in accordance with the local legislation and institutional requirements. Written informed consent for participation in this study was provided by the participants' legal guardians/next of kin. Written informed consent was obtained from the individual(s) for the publication of any potentially identifiable images or data included in this article.

Author contributions

SS: Writing – original draft, Conceptualization, Investigation, Methodology. MY: Methodology, Writing – original draft, Project administration. MU: Writing – review & editing, Conceptualization, Resources, Software, Validation. AM: Formal analysis, Investigation, Methodology, Writing – original draft. MM: Conceptualization, Data curation, Resources, Visualization, Writing – original draft. MS: Conceptualization, Resources, Supervision, Writing – original draft.

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The role of leaders in shaping school culture

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Principals plays a decisive role in shaping school culture. First, based on teachers' perceptions, this research explores indicators that differentiate schools with a positive culture from those with a negative culture. Second, it investigates potential perceptual differences between teachers and principals regarding school culture. The research approach is a grounded theory, utilizing unstructured interviews with principals, semi-structured interviews with school teachers, and observations conducted over a two-month period. The study population includes teachers and principals from eight secondary schools. From this population, the study sample consists of 12 principals and 137 teachers. The study findings evidenced that schools with a positive culture stand out for fostering a culture of cooperation among staff, celebrating school achievements, and collaborating in groups to develop curricular plans and programs. Furthermore, schools with a positive culture maintain strong connections with the community through participation in local ceremonies and adherence to community customs. The study concludes that the actions taken by leaders are closely associated with changes in school culture over time. Schools characterized by a positive culture cultivate a benevolent and productive environment, fostering satisfaction among staff. In contrast, schools with a negative culture often exhibit manifestations such as indifference, fragmentation, interpersonal conflicts, and a lack of job satisfaction.

KEYWORDS

leadership, school culture, professional collaboration, affiliative collegiality, self-determination

Introduction

Culture plays a fundamental role in shaping the life of a school, providing the foundation for the shared history, beliefs, and values among staff, students, and the broader community. It is visible through external indicators, such as the school's climate, environment, behaviors, rules, and uniforms. However, the deeper elements of school culture—such as heroes, rituals, stories, values, language, assumptions, and norms—are less visible yet crucial in defining the character of the institution (Peterson and Deal, 2009; Schein, 2004; Weick and Sutcliffe, 2007).

The relationship between leadership and school culture is central to both internal development and the broader influence of the school on its community. As Bush (2021) highlights, leadership and culture are intertwined and can vary significantly depending on the social and cultural context. Leadership practices are influenced by social norms, which in turn, shape how leadership is enacted within schools. For instance, hierarchical leadership structures in countries like China and Saudi Arabia contrast sharply with more collaborative and inclusive approaches in countries like the USA and Finland. This diversity in leadership practices underscores the importance of cultural responsiveness in school leadership, particularly in fostering an inclusive and effective school culture.

In this context, this study adopts grounded theory as its research methodology, applying a combination of Charmaz's constructivist grounded theory (2006) and Corbin and Strauss's grounded theory approach (2014), which allows for a deeper understanding of the less visible

aspects and indicators of school leadership. Grounded theory has become increasingly prominent in qualitative research, particularly in management and education, as a way to uncover patterns and dynamics that are often overlooked. Scholars like [Maharani \(2021\)](#), [Makri and Neely \(2021\)](#), and [Stough and Lee \(2021\)](#) have explored the evolution and application of grounded theory, highlighting its flexibility and adaptability across different research contexts. [Maharani \(2021\)](#) compares two approaches to data analysis within grounded theory: Glaser's flexible, researcher-led method and Strauss's more structured process. [Makri and Neely \(2021\)](#) note that while grounded theory is widely used, its application in management studies remains underexplored. Meanwhile, [Stough and Lee \(2021\)](#) emphasize its growing use in educational research, particularly with the rise of alternative approaches, such as Charmaz's constructivist grounded theory, which can be tailored to various research settings ([Apramian et al., 2016](#)).

This research aims to address key issues in school culture and leadership. Specifically, the study has two main objectives: first, to identify the indicators that distinguish schools with positive cultures from those with negative cultures; and second, to examine possible perceptual differences between teachers and principals regarding the culture of their schools. These objectives will guide the investigation into the complexities of school culture and the pivotal role leadership plays in shaping and sustaining it.

Conceptual framework/theory

The landscape of educational leadership is shaped by the interplay between principals, teachers, and the broader school culture. Research has increasingly focused on how these elements contribute to school effectiveness, accountability, and student achievement. The role of school culture in shaping educational environments is crucial for fostering effective learning and collaboration among students and staff. According to [Peterson and Deal \(2009\)](#), school culture consists of unwritten rules, symbols, traditions, and shared language that create an “underground river” of values and norms, which profoundly influence daily interactions and experiences within the school. [Schein \(2004\)](#) emphasizes that culture is built upon shared assumptions, beliefs, and values that define an organization's identity and goals. [Dongjiao \(2022\)](#) defines it as the system culture of a school, referring to the organizational structure, rules, regulations, and management culture that are shaped through the implementation of the school's spiritual culture. This system culture determines which actions should be encouraged, helps disseminate the school's value system, and regulates the behavior of teachers, students, and staff.

Schein identifies three levels of culture: visible artifacts, espoused beliefs and values, and unconscious underlying assumptions, emphasizing that leaders must understand these deeper cultural layers to lead effectively. [Aspin \(2005\)](#) defines values as shared standards of behavior, while beliefs are deeply held cognitive views about truth and identity, which are difficult to change. [Peterson and Deal \(2009\)](#) suggest that in schools, values guide decision-making, while beliefs shape attitudes towards teaching and learning, both of which can be resistant to change. [Weick and Sutcliffe \(2007\)](#) describe an “informed culture” as one that aligns with a community's values and beliefs, fostering reflection and thoughtful decision-making.

The studies by [Chiang et al. \(2016\)](#), [Harris \(2009\)](#), and [Jabonillo \(2022\)](#) offer diverse perspectives on the relationship between

leadership, school effectiveness, and the roles of principals. [Harris \(2009\)](#) emphasizes the importance of evaluating teacher contributions to educational policies and student achievement, arguing that teacher involvement in decision making is crucial for school success. In contrast, [Chiang et al. \(2016\)](#) question the utility of school effectiveness as a metric for assessing principal performance, highlighting that school value-added models do not reliably predict principal value-added. Similarly, [Jabonillo \(2022\)](#) explores the connection between leadership and school culture, noting that while leadership influences school culture, there is no significant relationship between school culture and school effectiveness.

Diverse studies have highlighted the central role of principals in fostering collaboration, school culture, and teacher development, though they approach these concepts in different ways ([Çoban et al., 2023](#); [DeMatthews, 2014](#); [Gumuseli and Eryilmaz, 2011](#); [Jabonillo, 2022](#); [Karadağ et al., 2020](#); [Sahlin, 2022](#), [Turan and Bektas, 2013](#)). [Gumuseli and Eryilmaz \(2011\)](#) emphasize the principal's role in promoting professional learning communities (PLCs) to enhance school quality, a view supported by [DeMatthews \(2014\)](#), who advocates for distributed leadership to empower teachers through PLCs, thereby fostering collaboration and improving student achievement. [Karadağ et al. \(2020\)](#) expand on this by examining the role of spiritual leadership and school culture, concluding that both factors positively influence academic performance. This perspective is aligned with [Turan and Bektas \(2013\)](#), who find a significant relationship between leadership practices—such as vision creation and personnel encouragement—and school culture. [Sahlin \(2022\)](#) similarly underscores the importance of principals in leading school improvement through active participation and clear direction. Lastly, [Çoban et al. \(2023\)](#) emphasize the importance of building trust with teachers and prioritizing instruction to foster collaboration and enhance self-efficacy. Collectively, these studies illustrate the multifaceted role of leadership in shaping a positive school environment, with a shared emphasis on leadership's role in promoting collaboration, school culture, and teacher effectiveness.

[Allton \(1994\)](#) posits that principals serve as cultural leaders, akin to artists who shape the identity of their schools. This perspective underscores the essential role of school leaders in actively fostering a positive culture that enhances instructional effectiveness. In this context, [Johnson et al. \(1996\)](#) expand on the concept of school culture by introducing the idea of school work culture, which refers to the collective work patterns within a school. They argue that productive organizations are driven by shared goals and collaborative efforts, reinforcing the notion that a strong school culture enhances overall effectiveness and productivity. Building on this, [Gaziel \(1997\)](#) emphasizes the crucial role of school culture, particularly in institutions serving disadvantaged students, where a commitment to continuous improvement, staff dedication, and clear policies can significantly enhance performance. [Phelps \(2008\)](#) further enriches this discussion by advocating for the cultivation of teacher leadership, arguing that empowering educators to assume leadership roles fosters a collaborative environment that benefits both teachers and students. This innovative approach to school improvement underscores the interconnectedness of effective leadership and a supportive culture, as highlighted by [Atkinson \(2000\)](#), who asserts that meaningful progress cannot rely solely on individual talent. Instead, he advocates for a dedicated and collaborative team effort to create a thriving school environment.

Friedman (1991) and Fullan (1995) emphasize the critical role of school culture in fostering teacher well-being and effectiveness. Friedman explores how a supportive environment, in which teachers are recognized as professionals, can significantly reduce burnout, ultimately enhancing their engagement and performance. Similarly, Fullan advocates for continuous learning among educators, arguing that a culture prioritizing academic achievement and teamwork is essential for sustained improvement. He cautions against the isolation of the “lonely martyr” teacher, emphasizing that collaboration and support among educators are crucial for long-term success. Complementing these ideas, Killion (2006) discusses how a positive school culture can enhance teachers’ willingness to engage in collaborative professional learning. She argues that transforming traditional professional development into collaborative practices increases both teacher and student learning time, highlighting the reciprocal relationship between school culture and professional development.

Organizational culture plays a fundamental role in shaping identity and behavior. Schein (1990, 2004) highlights that shared assumptions and values significantly influence organizational actions. Derr et al. (2002) examine the impact of national culture on leadership development, asserting that cultural values, norms, and artifacts are pivotal in shaping leadership practices. They emphasize the importance of culturally responsive leadership that accounts for diverse contexts, a principle essential for educators navigating the complexities of school environments. March and Weil (2005) argue that fostering mutual trust and delegation is critical for enhancing individual commitment to organizational goals. Additionally, Weick and Sutcliffe (2007) stress the necessity of resilience amid uncertainty, advocating for a culture that prioritizes open communication and encourages error reporting to improve organizational performance. Teasley (2016) underscores the vital role of leadership and collaboration in cultivating a positive school culture. He also explores the dual effects of school culture—both positive and negative—on effectiveness, morale, and student learning potential, emphasizing the need for a deliberate approach to create a supportive and collaborative environment essential for educational success.

Recent studies also emphasize the importance of leadership in fostering a creative and innovative educational environment. Shamasneh (2022) emphasizes the role of motivational leadership in enhancing creativity among teachers. The study shows that effective leadership practices can significantly improve teacher motivation, contributing to the development of a culture of innovation. This finding aligns with Pažur et al. (2020), who discuss the correlation between democratic school leadership and democratic school culture. Principals who practice democratic leadership contribute significantly to fostering a culture that nurtures creativity and teacher engagement, ultimately enhancing student learning. Additionally, Mutohar et al. (2021), found that principal leadership behavior, teacher role models, and a positive school culture are essential in shaping student character and preparing students to adapt to a globalized world. These elements of leadership and culture align with findings from Nelianti Fitria and Puspita (2021) observed that principal leadership and school work culture directly influence teacher professionalism, with both factors contributing to an environment that promotes teacher growth and performance.

The role of transformational leadership in fostering organizational learning and school culture has also been highlighted by Kızıloğlu

(2021). His study indicates that transformational leadership, when supported by a positive organizational culture, can significantly improve learning outcomes. The importance of leadership styles is further supported by Gyimah (2020), who found that transformational, transactional, and instructional leadership styles positively impact both school culture and performance. These studies reinforce the idea that leadership styles directly influence the quality of school culture and, in turn, contribute to improved school performance. Finally, Zepeda et al. (2022) highlight the significance of teacher voice in shaping school culture. By fostering an environment where teachers feel empowered to share their ideas, schools can create a culture of continuous improvement. Teacher agency, rooted in trust and respect, enables teachers to contribute meaningfully to school development.

Methodology

Participants

The participants in this study include a total of 149 individuals across three phases. The first phase involved 12 school leaders ($N = 12$), comprising 8 principals and 4 vice-principals from 9-year-old schools in the Durrës district. The second phase included 137 teachers ($N = 137$) from various departments including science, social, and elementary education subjects. In the third phase, an observation was conducted involving both teachers and principals from the five selected schools, coded Sa, Sc, Sd, Se, and Sm.

Instruments

Data were collected through a combination of unstructured interviews, semi-structured interviews, and surveys. In the first phase, unstructured interviews with the school leaders focused on indicators of school culture, including celebrations, stories, common sayings, taboos, rituals, ways of rewarding, communications, and events, as outlined by Stoll (1999). In the second phase, semi-structured interviews were adapted from the “School Leader’s Tool for Assessing and Improving School Culture” (Wagner, 2006) and focused on aspects such as Professional Collaboration, Affiliative Collegiality, and Self-Determination/Efficacy. These interviews included a mix of closed and open-ended questions. In the third phase, a manual observation tool was utilized, where teacher-observers manually recorded words and phrases frequently expressed by the principals and teachers in the selected schools.

Data collection procedures

The data collection was carried out in three distinct steps:

- 1 Unstructured Interviews with School Leaders: Preliminary data were gathered through unstructured interviews with 12 school leaders. The data were transcribed and coded using open, axial, and selective coding.
- 2 Semi-Structured Interviews with Teachers: In the second phase, semi-structured interviews were conducted with 137 teachers across various subject areas. These interviews used

TABLE 1 Data coding according to open coding, axial coding, and selective coding.

Main Category Selective coding	Subcategory Axial coding	Positive Culture Open coding	Negative Culture Open coding
Promotion of achievements and motivation	Staff achievements	- Evidence of successes in meetings - Celebration of success - Analysis of failures in constructive debate	- Lack of promotion of achievements - Blaming staff for non-achievement
	Teacher motivation	- Rewards for achievements - Evaluation of teachers' work by results - Opportunities for professional development	- Lack of evaluation of achievements - Lack of incentives
	Motivating students	- Fun activities - Rewards and certificates - Praise for good behavior	- Students' results at the end of the year - The best students receive a certificate of appreciation
Cooperation and joint initiatives	Meetings and discussions	- Meetings after hours to discuss issues - Discussions on the topics of the day	- Lack of active participation - Avoidance of common problems
	Joint projects	- Shared ideas and projects by teachers - Cooperation with the Student Government	- Forced participation - Teachers' passivity
	Connecting with the community	- Cooperation with community personalities - Joint events and activities	- Lack of connection with the community; formalism in relationships
Management of rules and norms	Rules and norms	- Awareness of the implementation of the rules - Wearing the uniform - Banning the use of mobile phones	- Penalties for non-compliance - Tension in the work environment
	Respect and citizenship	- Prohibition of bullying - Measures for ethical violations	- Lack of respect between staff and students
	Integration of new teachers	- Welcoming newly appointed teachers - Helping staff	- Rivalry between new and old teachers
Promotion of values and tradition	Success story	- Remembering and promoting the values and successes of the school; organizing celebratory activities	- Lack of connection with the community; inactivity in activities
	Preservation of school values	- Cultural and artistic activities that strengthen the school's identity; engagement of former students in traditional events	- Lack of active involvement; avoiding emphasizing cultural values

both closed and open-ended questions to explore key aspects of school culture. Data collection occurred over a period of 3 months, with interviews distributed and collected according to school codes (Sa, Sb, Sc, Sd, Se, Sf, Sm, Sn).

- 3 Observation in Selected Schools: In the final phase of the study, observations were conducted in five schools (coded Sa, Sc, Sd, Se, and Sm) over a period of 2 months. The schools were selected based on three key criteria: (1) location (ensuring a balance between central, suburban, and rural schools), (2) average score results (with schools classified as low, medium, or high, based on collected data; see Table 2), and (3) issues identified during interviews with teachers. The observations were carried out by 3–4 teachers per school, minimizing the subjectivity of the observer. These teacher-observers were thoroughly trained in ethical guidelines and research procedures, which included informed consent, confidentiality, and respect for participants' privacy. Additionally, they were briefed on the importance of impartiality and how to conduct observations in a way that ensures no harm or bias. Finally,

discussions were held with each observer to clarify their notes and gain deeper insights into their perceptions of the overall observation process.

Data analysis procedures

Data analysis was conducted through grounded theory methodology, using the processes of open coding, axial coding, and selective coding (Corbin and Strauss, 2014). The analysis followed a cyclical and continuous process, beginning with the initial coding of interview data and expanding as more data were gathered from teachers (Glaser and Strauss, 2017) and through observations (Charmaz, 2006). Constant comparisons were made between concepts related to school culture, allowing for the development of narratives and theories on positive versus negative school cultures. Triangulation and data validation were also integral to the analysis, ensuring the robustness of the findings and the creation of a theory on school culture.

TABLE 2 Average scores for collaboration, affiliative collegiality, and self-determination.

Question	Sa	Sb	Sc	Sd	Se	Sf	Sm	Sn
	M	M	M	M	M	M	M	M
Q1: How often do teachers discuss instructional strategies and curriculum issues?	1.7	2.8	3.6	1.9	3.3	3.0	3.6	2.7
Q2: How often are teachers involved in decision-making?	1.9	3.1	3.7	1.7	3.4	2.9	3.4	2.6
Q3: How often do you feel you work as a team?	2.0	3.2	3.5	1.6	3.1	2.8	3.4	2.8
Q4: How often do you share success stories related to the school's values?	2.3	3.2	3.9	1.4	3.5	2.8	3.5	2.5
Q5: How often do meetings occur outside of school among teachers?	2.1	3.3	3.9	1.7	3.2	3.0	3.5	3.1
Q6: How often are new ideas supported in your school?	2.5	3.0	3.6	1.7	3.0	2.7	3.6	3.0
Q7: How often do you feel interdependent and valued by your colleagues?	1.8	2.6	3.6	1.6	3.1	2.4	3.8	2.9
Q8: How often are new ideas encouraged for solving problems?	2.1	3.1	3.8	1.5	3.1	2.4	3.9	2.6
Q9: How often do you feel content about your work experience at this school?	2.1	3.3	3.6	1.6	3.2	3.1	3.4	3.1

Findings and discussion

Perceptions of school leaders on school culture (research step 1)

The analysis of school leaders' transcripts revealed 26 distinct codes that captured both positive and negative aspects of school culture. These codes were organized into 11 subcategories and 4 core categories: promotion of achievements and motivation; collaboration and joint initiatives; management of rules and norms; and promotion of values and traditions, as summarized in Table 1. The distinction between positive and negative school culture was based on criteria such as the presence or absence of supportive leadership behaviors, recognition of achievements, opportunities for collaboration, clarity and fairness in the enforcement of rules and norms, and the alignment of shared values and traditions. In a positive school culture, leaders create a motivational environment where both staff and students feel valued and supported, consistent with the principles of transformational leadership. Effective principals inspire, motivate, and provide individualized support to their teams, fostering professional growth and achievement (Engels et al., 2008). This focus on recognition, achievement, and ongoing professional development nurtures a thriving academic atmosphere. For instance, principals who recognize staff and student successes through ceremonies, awards, and incentives help create a positive climate that boosts morale and drives high performance (Habegger, 2008; McChesney and Cross, 2023). These behaviors align with the school's vision, setting high academic standards and cultivating a shared commitment to growth (Jerald, 2006; Lee and Louis, 2019). While the promotion of achievements and motivation is an essential aspect of a positive school culture, collaboration and joint initiatives, management of rules and norms, and the promotion of values and traditions are equally crucial in distinguishing positive school cultures from negative ones. In contrast, negative school cultures often lack these leadership practices and structural support, which leads to disengagement and disconnection within the school community (Verma, 2021). A misalignment between actions, values, and traditions can hinder a

school's ability to improve student outcomes, as observed in environments where trust, collaboration, and professional development are minimal, leading to stagnation and low motivation (Jerald, 2006).

The following table provides a detailed overview of the identified categories and subcategories, illustrating key themes related to school culture based on principals' perceptions.

Building on the selective coding analysis, which identified these key dimensions of school culture, the following discussion provides a deeper exploration of how these core categories contribute to shaping a positive or negative school environment:

Promotion of achievements and motivation

In a positive school culture, achievements of staff and students are consistently recognized and celebrated. The school leadership actively highlights successes in meetings, fostering a sense of pride and motivation among teachers. For instance, motivational ceremonies, awards, and modest financial incentives for students encourage a thriving academic environment. Willower (1984) supports this by emphasizing the significance of shared values and goals in promoting a culture of excellence. Generative dialogue within organizations promotes inclusivity and mindfulness, helping leaders foster a unified narrative that supports an inclusive culture (Wasserman et al., 2008). Conversely, a negative culture is characterized by a lack of recognition and support for achievements. Here, the leadership adopts a more transactional approach, implying that staff are expected to fulfill their duties without acknowledgment of their efforts. This atmosphere may lead to resentment and disengagement among both teachers and students, ultimately undermining motivation (Gaziel, 1997).

Collaboration and joint initiatives

Effective principals encourage collaboration through regular meetings and discussions about challenges and ideas. Allton (1994)

highlights that principals act as cultural leaders, fostering environments that promote collective problem-solving. Engaging in joint projects with teachers and the student government further enhances collaboration and ownership over school initiatives, contributing to a sense of community. By being authentic and strategically using personal experiences, principals help cultivate a trustworthy and supportive atmosphere (Wasserman et al., 2008). In contrast, negative cultures often exhibit a lack of initiative and collaboration. Teachers may isolate themselves, leading to finger-pointing regarding student outcomes. This environment stifles innovation and prevents the sharing of best practices, resulting in stagnation (Rhodes et al., 2011). By using “defense mechanisms” (Argyris, 2000, 2004), teachers maintain two different “theories of action” regarding effective behavior: what they advocate for and what they actually use. If this process persists over time, boundaries can transform into obstacles, and what begins as protection can evolve into isolation (Freiberg, 1999).

Management of rules and norms

A positive culture thrives on clearly communicated norms and rules that are collaboratively established and enforced. This approach fosters respect and accountability among staff and students. Willower (1984) suggests that creating structures that support professional learning can enhance adherence to norms, promoting a safe and productive educational atmosphere. In a negative school culture, rules may be enforced rigidly without input from the school community, leading to resentment and noncompliance. This can manifest in students feeling alienated and disengaged from the school environment. The lack of supportive leadership can result in disciplinary measures being seen as punitive rather than constructive (Opdenakker and Van Damme, 2007).

Promotion of values and traditions

A thriving school culture is rooted in shared values and traditions that celebrate community and inclusivity (Peterson and Deal, 2009; Schein, 2004). Schools that emphasize cultural heritage and collective achievements foster a sense of belonging among students and staff. Paradise and Robles (2016) highlight the importance of integrating community values into daily school life, promoting a cohesive educational environment. In contrast, a negative culture often overlooks the significance of shared values and traditions, leading to fragmentation within the school community. Without a cohesive identity, students and staff may feel disconnected from the school's mission, resulting in lower engagement and commitment (Shaw and Reyes, 1992).

Positive school culture compared to negative culture according to teachers' perception (research step 2)

The average scores in Table 2 were calculated by averaging the responses from teachers across the 9 questions. These scores, categorized by school type (urban: Sa, Sb, Sc; rural: Sd, Sm, Sn;

suburban: Sf, Se), reflect behaviors and perceptions related to collaboration, collegiality, and self-determination within each school culture. The scale ranges from 1 (never) to 5 (always), capturing variations in how often teachers engage in activities such as discussing instructional strategies, sharing successes, participating in decision-making, and fostering a team-oriented environment.

These scores provide insight into the level of engagement and satisfaction within each school, reflecting teachers' perceptions of their work environment. Higher average scores indicate a positive culture marked by collaboration, trust, and shared success, while lower scores suggest negative aspects, such as poor communication, lack of collaboration, and low morale.

Exploring variations in school culture: insights from high and low scoring schools

Based on the average scores, we conclude that Schools Sc and Sm exhibit high levels of cooperation and respect, indicating a positive school culture and strong teacher commitment. These schools consistently score highly on key questions, such as Q4 (sharing success stories), with Sc ($M = 3.9$) and Sm ($M = 3.5$), and Q5 (meetings outside of school), with Sc ($M = 3.9$) and Sm ($M = 3.5$). The informal sharing of stories, achievements, and experiences plays a critical role in reinforcing school values and norms, contributing to a cohesive work environment (Kotter, 1996). By studying the behaviors and manners of school members, along with relevant activities and ceremonies, we can better understand the school's overall behavioral culture (Dongjiao, 2022). Q7, which measures teachers' perceptions of interdependence and feeling valued, scores particularly high in Sm ($M = 3.8$) and Sc ($M = 3.6$), reflecting strong collegial relationships and a shared sense of purpose. In these schools, teachers are more likely to feel supported by their peers, creating a positive atmosphere conducive to collaboration (Lee and Louis, 2019; Sahlin, 2022). Q8 (encouraging new ideas for problem-solving) also reflects this trend, with Sm and Sc scoring $M = 3.9$ and $M = 3.8$, respectively. This suggests that innovation and a willingness to embrace change are actively encouraged, further reinforcing a positive, forward-thinking culture. Teachers' own beliefs and attitudes toward professional learning and development influence how they engage with and implement new ideas in their teaching (McChesney and Cross, 2023). Higher-scoring schools typically demonstrate stronger communal ties and a more collaborative culture, which are essential for fostering staff commitment (Peterson and Deal, 2009).

In contrast, Schools Sd and Sa show lower scores on several key questions, particularly Q1 (discussing instructional strategies), with Sa ($M = 1.7$) and Sd ($M = 1.9$), and Q4 (sharing success stories), with Sa ($M = 2.3$) and Sd ($M = 1.4$). These lower values indicate limited collaboration, minimal engagement in decision-making, and a lack of experience-sharing, suggesting a more hierarchical and less dynamic culture (Verma, 2021). Additionally, Q7 scores are particularly low in both Sa ($M = 1.8$) and Sd ($M = 1.6$), suggesting that teachers in these schools may not feel valued or supported by their colleagues. This lack of interdependence could hinder professional growth and contribute to feelings of isolation. Q8 also shows lower engagement in Sa ($M = 2.1$) and Sd ($M = 1.5$), indicating that these schools may be less open to new ideas and collaborative problem-solving, which can limit their ability to adapt and innovate. In these schools, teachers may

struggle to feel valued or supported, hindering their professional growth and commitment. Moreover, the absence of regular engagement in sharing successes or solving problems collaboratively can reinforce a rigid, hierarchical structure, limiting adaptability and growth. This stagnant culture restricts meaningful collaboration, ultimately reducing overall school effectiveness (Peterson and Deal, 2009).

Exploring core categories from teacher responses to open-ended questions

Based on the transcripts obtained from the open-ended interview questions, the data were analyzed using open coding, axial coding, and selective coding. This process resulted in the creation of 48 codes, 16 subcategories, and 4 main categories: Environment and Collaboration; Leadership Style; Development Opportunities; Activities and Celebrations.

Environment and collaboration

Positive Culture (schools Sc and Sm): There is a strong sense of support and collaboration among teachers, with constructive criticism for improvement (school Sc). Teachers feel like they are part of a family and work closely with the local community, promoting values and traditions (school Sm).

Teachers reported:

“In school, there is hard work and strong collaboration; criticism for improving work is natural in meetings with groups of teachers, according to departments.” (Teacher 11, Sc).

“Every teacher at the school has found support from the staff and the school directorate during difficult moments (not only in their work but also in cases of illness or family tragedies).” (Teacher 8, Sc).

“We feel like we are in a family, where everyone shares everything with each other.” (Teacher 5, Sm)

“Teachers coming from the city appreciate and collaborate closely with the teachers and the local community.” (Teacher 10, Sm).

Negative Culture (school Sa and Sd): There is a lack of discussion and collective decision-making; teachers focus on their personal problems and do not feel encouraged to contribute more (School Sd). There is a lack of clarity in guidance and involvement in decision-making; teachers feel disengaged (school Sa).

Teachers’ reported:

“The requests are often unclear, and meetings frequently end with a lack of clarity regarding what is required concerning orders and directives from above.” (Teacher 20, Sa).

“Teachers do not have the opportunity to discuss; we simply accept what the school directorate decides.” (Teacher 14, Sa).

“Each teacher looks at their own work and family problems.” (Teacher 4, Sd).

“We gather together, but we discuss school issues very little.” (Teacher 8, Sd).

“The decisions of the school are made by the school directorate.” (Teacher 4, Sa).

Chong and Kong (2012) and Willower (1984) both highlight the importance of balancing teacher autonomy with collaborative practices to enhance instructional effectiveness. In schools Sc and Sm, the establishment of formal learning communities allowed teachers to collaborate and share best practices, directly reflecting Willower’s concept of fostering ongoing collaboration. Interviewees reported that this environment boosted their confidence and efficacy. In contrast, schools Sa and Sd had more hierarchical structures that limited teacher autonomy, corroborating Meier’s (2012) findings that collaborative environments are crucial for effective instruction.

Activities and celebrations

Positive Culture (schools Sc and Sm): Activities and celebrations provide opportunities for socializing among teachers (school Sc). Organizing celebrations in collaboration with the community is a tradition (school Sm).

Teachers reported:

“It is a tradition of the school that year-end celebrations are held with the community.” (Teacher 10, Sc).

“Activities such as greening the environment, culinary events promoting local dishes, and showcasing traditional Albanian clothing on national holidays have become a school tradition.” (Teacher 7, Sc).

“Despite work debates, in our free time or after classes, on regular days or even on holidays, we gather in each other’s company, celebrating birthdays or personal events.” (Teacher 14, Sm).

Negative Culture (schools Sa and Sd): Teachers have a limited role in organizing activities, leading to a division of responsibilities (school Sa). School activities are lacking, and student interest is low (school Sd).

Teachers reported:

“Activities are lacking in the school. There are absences of students in the classrooms.” (Teacher 1, Sd).

“Students are not interested in learning.” (Teacher 9, Sd).

“The staff’s opinions are only considered for excursions or festive events, but not for other school initiatives.” (Teacher 3, Sa).

When the principal highlights general values of symbolic importance, it enables teachers to frame their activities in relation to socially significant human goals and to connect their daily work to educational values. This awareness of values is a hallmark of a school

culture that supports improvement (Willower, 1984). “Without ceremonies, traditions, and rituals, we could easily lose our way amid the complexity of everyday life at work” (Peterson and Deal, 2009: 39).

Leadership style

Positive Culture (schools Sc and Sm): The leader is inspirational and values the work of the staff (school Sc). The leader knows the community well, creating a supportive environment (school Sm).

Teachers’ reported:

“It is a pleasure to work in an environment where hard work and achievements are valued.” (Teacher 13, Sc).

“There is much to learn from an experienced leader who is professional, a good listener, and a visionary.” (Teacher 3, Sc).

“The principal is an inspiring role model.” (Teacher 1, Sc).

“Every teacher at the school has found support from the principal.” (Teacher 7, Sm).

“The principal is from this area and knows the community’s mindset well.” (Teacher 3, Sm).

“The principal is a strong advocate regarding work and a special friend, gentle and supportive at the same time.” (Teacher 12, Sm).

According to Cohen (2010), the most significant motivational factors include working with respected individuals, engaging in interesting tasks, receiving recognition for good work, having opportunities to develop skills, and collaborating with individuals who listen to ideas for the benefit of the work.

Negative Culture (schools Sa and Sd): Leadership is authoritarian and critical, providing insufficient support for development (Sa). The leader is liberal, resulting in a lack of engagement and planning (Sd).

Teachers’ reported:

“The principal is liberal, and the annual plan is formal.” (Teacher 5, Sd).

“Changes or new findings are not communicated.” (Teacher 13, Sa).

“We are unclear about the requests and tasks.” (Teacher 21, Sa).

“The vice principal creates obstacles for integrated teaching lessons and does not accept discussions.” (Teacher 17, Sa).

“Both new and old teachers face a leader who only criticizes and does not offer support.” (Teacher 7, Sd).

Leaders must balance authority and approachability, as excessive power may lead to tyranny, while too little can appear weak (March and Weil, 2005). When a leader views direction, directives, and control as the most effective methods for managing an institution or community, they are essentially rejecting the idea of empowerment (Block, 1987).

Opportunities for development

Positive Culture (schools Sc and Sm): Staff engage in meetings for improvement (school Sc). Help and experience sharing are present (school Sm).

Teachers’ reported:

“The leader shares her work experience as a methodologist and teacher with the staff.” (Teacher 11, Sm).

“The principal values and encourages every school project and initiative.” (Teacher 8, Sm).

“The department heads coordinates the work.” (Teacher 2, Sc).

“We observe each other’s classes, especially for specific topics.” (Teacher 11, Sm).

“We participate in training sessions both inside and outside the school.” (Teacher 6, Sc).

Negative Culture (schools Sa and d): There is a lack of efficiency in professional development and no constructive discussions (school Sa). Development is formal and lacks real impact (school Sd). Teachers’ reported:

“Professional development is fictional.” (Teacher 3, Sd).

“No one discusses or debates the open teaching classes.” (Teacher 15, Sa).

“We are not trained for the needs we have.” (Teacher 6, Sd).

“New teachers are incompetent and do not want to work.” (Teacher 2, Sa).

“Open classes are held twice a year, and they are formal.” (Teacher 7, Sd).

“We are tired of worthless things.” (Teacher 2, Sd).

“When I came to this school, no one helped me.” (Teacher 1, Sa).

“We are not included in projects.” (Teacher 8, Sa) and (Teacher 10, Sd).

These findings resonate with Sergiovanni’s perspective that school culture is shaped more by shared values than by management controls. The significance of socialization and share activities in fostering a strong school culture is underscored by Nonaka et al. (2001), who

highlight that shared experiences can enhance tacit knowledge and collective efficacy. In conclusion, Schools Sc and Sm demonstrate high indicators of professional collaboration, collegiality, and self-determination compared to Schools Sd and Sa. This difference may stem from teachers being more responsive to shared values and norms than to management controls (Sergiovanni, 2001). A positive culture builds commitment (Peterson and Deal, 2009), and informal meetings and storytelling enhance connections among students, influencing behavior norms and shared values. Consequently, school culture becomes powerful because these interactions occur naturally and without conscious intention, making it difficult to challenge or question (Kotter, 1996).

Values/beliefs/attitudes of principal and teacher based on 2 months observations

The observations from the four schools reveal a distinct correlation between the values and beliefs held by principals and the resulting attitudes of teachers. Each principal's approach creates a unique environment that affects teacher morale, engagement, and ultimately student success.

At *school Sa (Urban)*, the principal's values center on authority and compliance. Phrases like "I know this" and "It will be done as I say" illustrate a belief in a top-down approach that stifles collaboration. This leads to teacher frustration, as reflected in statements like "Students are not like they used to be" and "We're wasting our time." The overall atmosphere is one of disengagement, highlighting the need for improved communication and support. In contrast, *school Sc (Urban)* showcases a principal who values collaboration and open dialogue. The principal's encouragement of discussion is evident in phrases such as "How do you see this?" and "Let us meet to discuss." This fosters a belief in the importance of diverse perspectives and maintaining the school's reputation. Teachers echo this collaborative spirit with statements like "Let us help the students" and "I can help," creating a positive attitude that promotes engagement and proactive involvement. *School Sd (Rural)* presents a different picture, with the principal's values rooted in control and urgency. Phrases like "Come on, move!" and "I want it done today!" reflect a belief in strict accountability, which cultivates a punitive attitude. Teachers express disillusionment, stating, "Our work no longer has value" and "These are pointless tasks." The overall environment is negative, indicating an urgent need for a shift toward more supportive leadership. Conversely, in *school Sm (Rural)*, the principal embodies an optimistic and collaborative leadership style. Phrases such as "Nothing is impossible" and "Let us do it together" highlight values of teamwork and support. This belief fosters an attitude of encouragement, with teachers expressing sentiments like "I was pleased with the students' preparation" and "Let us celebrate the children's achievements." The result is a vibrant and engaging atmosphere that values community and recognizes accomplishments.

The following table highlights the most frequently noted phrases from each school, illustrating the stark contrasts in principal and teacher attitudes (Table 3).

From these observations, it is evident that values and beliefs significantly influence the attitudes of both principals and teachers. A collaborative and supportive leadership style fosters engagement and

satisfaction, while authoritarian and punitive approaches can lead to disengagement and disillusionment. Thus, the nature of leadership is crucial in creating a thriving educational community. In conclusion, schools where principals adopt an authoritarian style, such as Sa (Urban) and Sd (Rural), tend to exhibit a culture marked by disengagement and dissatisfaction among teachers. The focus on compliance and control creates an environment where teachers feel undervalued and disillusioned, ultimately hindering their motivation and effectiveness. Conversely, in schools like Sc (Urban) and Sm (Rural), where principals embrace collaborative and supportive leadership styles, the school culture thrives. Open communication and a shared sense of purpose foster engagement and satisfaction among teachers, resulting in a positive atmosphere that benefits both educators and students. This analysis underscores the importance of leadership in shaping school culture, as "*leadership and culture are two sides of the same coin*" (Schein, 2004, p. 10).

Conclusion

Based on data triangulation from principal-teacher interviews and a two-month observation, the findings suggest that in schools with a positive culture, there are fewer perceptual differences between principals and teachers. This is because these schools are perceived as familiar environments where both parties contribute jointly to shared values and achievements. In these schools, rituals, holidays, entertainment, ceremonies, healthy debates, and open communication help foster an environment where relationships are both supportive and collaborative (Denning, 2004; Peterson and Deal, 2009; Stolp, 1996).

In contrast, in schools with a negative culture, perceptual differences arise between the leaders and teachers. Leaders tend to see their role as one focused on accountability, structure, rigid planning, and enforcement of rules, while teachers view their leaders as distant, unable to solve their problems, and somewhat one-dimensional in their approach. This disparity in perception often results in defensive mechanisms (Argyris, 1995), which hinder open communication and trust.

The analysis also highlights that professional collaboration, affiliative collegiality, and self-determination are more prominently observed in schools with a positive culture. A truly positive school culture extends beyond mere discipline and involves shared values and norms that unite the community toward common goals (Craig, 2006; Dongjiao, 2022). In such schools, the role of the leader is crucial in promoting collaboration (Engels et al., 2008), involving the "teacher voice" (Zepeda et al., 2022) in decision-making processes, and fostering an environment where healthy debates and accountability occur, without resulting in quarrels or divisions between teachers.

Moreover, in schools with a positive culture, it is evident that the leader is supportive and kind to the staff regarding their personal and family problems, as much as he is demanding, stimulating and motivating at work. These schools also tend to promote national and local traditions, which reinforces a sense of community among both teachers and students.

While the findings indicate strong indicators of positive culture in urban and rural schools, it is important to approach the assertion that positive school culture is independent of demographic indicators with

TABLE 3 The most frequent words from observations.

Schools	Principals	Context for principal's leadership	Teachers	Context for teachers' reactions
Sa (Urban)	<ul style="list-style-type: none"> - "I know this." - "It will be done as I say." - "The law requires it; you must do it." - "Find the solution yourself." - "Do not expect my protection." - "I will not tell you how to do your job." 	The principal's authoritarian approach emphasizes control, compliance, and directives without input from teachers. This top-down style inhibits collaboration and fosters a disengaged environment.	<ul style="list-style-type: none"> - "Students are not like they used to be." - "The principal has become like a robot." - "Does not clarify tasks." - "Let us be informed about the school income" - "We're getting bored with work." - "We're wasting our time." 	Teachers express frustration with a lack of clarity and support. The principal's style creates an environment where teachers feel undervalued, contributing to low morale and disillusionment. Teachers also feel that their work is becoming less meaningful, which hinders engagement.
Sc (Urban)	<ul style="list-style-type: none"> - "How do you see this?" - "Let us comment on the results." - "Let us analyze specific facts." - "Let us meet to discuss." - "Is there any different opinion?" - "Let us maintain the school's reputation." 	The principal encourages open dialogue and collaboration, prioritizing feedback and shared decision-making. This inclusive leadership style creates a more engaging and supportive school culture.	<ul style="list-style-type: none"> - "Let us help the students." - "How will the lesson go today?" - "Class students are interested." - "Let us discuss this in the department." - "We'll come to watch the rehearsals." - "I can help." 	Teachers embrace the collaborative atmosphere, offering help and supporting each other. They actively engage in discussions and demonstrate a positive attitude toward their work. Teachers value teamwork, which translates into proactive support for students.
Sd (Rural)	<ul style="list-style-type: none"> - "Come on, move!" - "I will not do your work!" - "I want it done today!" - "From now on, things will change!" - "You are irresponsible!" - "I will take punitive measures!" 	The principal's focus is on control, urgency, and punitive measures, suppressing teacher autonomy and collaboration. This authoritarian leadership creates a stressful environment.	<ul style="list-style-type: none"> - "We only focus on the facade of the school." - "Our work no longer has value." - "These are pointless tasks." - "We need training." - "Everyone gets paid the same." - "How unrefined are these students." 	Teachers feel disillusioned, believing their work lacks purpose. The absence of professional development and support leaves them feeling demotivated. Their comments reflect a growing lack of confidence in leadership and a sense that their tasks are irrelevant.
Sm (rurale)	<ul style="list-style-type: none"> - "Nothing is impossible." 	The principal adopts a collaborative and optimistic approach, prioritizing teamwork and mutual support. This creates an atmosphere of encouragement and shared responsibility.	<ul style="list-style-type: none"> - "I was pleased with the students' preparation." - "What will we organize for the celebration?" - "How will we inform the parents?" - "Teachers tell funny stories." - "Let us all go together." - "Let us celebrate the children's achievements." 	Teachers thrive in the supportive environment. They express satisfaction with students' progress and are actively involved in school events. Their camaraderie and enthusiasm reflect the positive impact of a leadership style that fosters inclusion and celebrates collective achievements.

caution. The current study's design does not provide conclusive evidence to definitively support this claim. Instead, the role of the leader in fostering a positive school culture emerged as a significant factor in sustaining a healthy school environment, irrespective of school size or location.

In this last point, it is noted that rural schools with a positive culture convey school cultural indicators that are more integrated and closer to the tradition of the area, referring to the clothing and cooking of the area; rites and customs, while the schools of the center with a positive culture demonstrate their individuality by participating in projects, activities and enterprises that promote the local culture. This study suggests that school culture is an area of great interest for future research, particularly in relation to the promotion of school, national, and human values.

Limitation and suggestions for future research

The experiences of a small group of leaders may not represent the broader population of school leaders across different contexts. The geographical focus on the Durres district may also limit the findings' applicability to other regions, especially those with differing socio-economic, cultural, or educational contexts. The two-month observation period might not be long enough to capture the dynamic nature of school culture. School cultures can evolve over time, and a more extended observation period might provide deeper insights into these changes and the sustainability of positive cultures.

To address these limitations, future research could consider expanding the sample size and geographical diversity, utilizing longitudinal studies to observe changes over time, and incorporating a broader range of contextual factors that influence school culture.

Data availability statement

The datasets presented in this article are not readily available because the data was collected manually. Requests to access the datasets should be directed to AP; uamd.anil79@yahoo.com.

Ethics statement

The studies involving humans were approved by Durres Regional Educational Directorate. The studies were conducted in accordance with the local legislation and institutional requirements. The participants provided their written informed consent to participate in this study.

Author contributions

AP: Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Software, Writing – original draft, Writing – review & editing. KL: Supervision, Validation, Writing – review & editing.

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