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Learning-Oriented School Cultures and Teacher Outcomes: Self-Efficacy as a Mediator in a Centralized Education System

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Abstract: This study investigates how learning-oriented school cultures, conceptualized through the Schools as Learning Organizations (SLO) framework, relate to teacher self-efficacy, job satisfaction, and work effectiveness in primary schools within a centralized education system. While these constructs have received considerable attention in the literature, they have rarely been examined together within a unified organizational learning perspective, particularly in contexts marked by limited school autonomy. Using a cross-sectional survey design, data were collected from 94 teachers in nine public primary schools, alongside aggregated student ratings of instructional effectiveness from 364 pupils. The findings showed that learning-oriented school cultures were positively associated with teacher self-efficacy, job satisfaction, and work effectiveness. Teacher self-efficacy also partially mediated the relationship between SLO conditions and both job satisfaction and work effectiveness. These findings indicate that learning-oriented school cultures may strengthen teacher outcomes directly and indirectly by reinforcing teachers' sense of efficacy. Thus, the role of school leadership in cultivating collaborative and inquiry-oriented professional environments is particularly important

Keywords: Centralized education system, instructional effectiveness, job satisfaction, schools as learning organizations, teacher self-efficacy.

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Introduction

Teachers today work in environments characterized by frequent policy changes, rising public expectations, and persistent demands for improved student learning. Curriculum reforms, increasing student diversity, and the expanding social role of schools have made teaching both cognitively demanding and emotionally complex. These conditions have intensified interest in the organizational factors that support teachers' motivation, well-being, and engagement. This increased interest reflects the established links between these factors and instructional quality, retention, and student achievement. (OECD, 2020; Viac & Fraser, 2020; Xiao & Zheng, 2025). Recent evidence further suggests that instructional leadership is associated with teacher well-being through organizational and psychological mechanisms such as workload stress and autonomy support (Chen & Yin, 2025). More broadly, research has consistently shown that, beyond individual characteristics, school culture and organizational structures play an important role in shaping teachers' beliefs, emotions, and classroom practices (Hoy & Miskel, 2012; L. Huang et al., 2020).

Within this context, the concept of the school as a learning organization (SLO) provides a useful framework for understanding how schools develop internal capacity to respond to complexity and change. The SLO perspective emphasizes shared vision, collaborative inquiry, reflective dialogue, and collective responsibility for improvement (Senge, 1990; Silins et al., 2002). When these features become embedded in everyday school life, teachers are more likely to experience alignment between their professional values and the wider organizational environment. Previous research suggests that learning-oriented school cultures can strengthen collective efficacy, empowerment, and organizational resilience, while also helping teachers respond more effectively to reform-related pressures (Kools & Stoll, 2016; Schechter, 2008; Vangrieken et al., 2017).

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SLO principles also extend beyond pedagogy to leadership and governance. They depend on leadership practices that create opportunities for collaboration, support shared decision-making, and foster trust and inquiry. In the Greek context, however, sustaining such processes may be particularly difficult, as the education system continues to be characterized by a high degree of centralization and limited school-level autonomy (Katsigianni & Ifanti, 2020; OECD, 2026). Under these conditions, bureaucratic procedures and uneven access to professional development may restrict the development of collaborative learning cultures (Katsigianni & Ifanti, 2020; OECD, 2026). Examining how SLO characteristics operate in Greece is therefore important for understanding how leadership and organizational processes may support teachers' professional growth and emotional well-being.

Within this organizational and policy context, three teacher-related outcomes warrant particular attention: self-efficacy, job satisfaction, and work effectiveness. Teacher self-efficacy refers to beliefs about one's capacity to influence student learning and has been associated with instructional resilience, motivation, and innovation (Bandura, 1997; Tschannen-Moran & Hoy, 2001). Job satisfaction reflects teachers' emotional evaluations of their work and is linked to engagement, retention, and reduced burnout (Collie, 2023; Dinham & Scott, 2000). Work effectiveness concerns teachers' ability to manage classrooms and support student progress and is shaped by both organizational conditions and personal beliefs (Hattie, 2008; Liu et al., 2023).

Although teacher self-efficacy, job satisfaction, and work effectiveness have each attracted considerable scholarly attention, they have rarely been examined together within a unified organizational learning framework. Existing research has more often explored these constructs in relation to specific dimensions of school climate, leadership, or professional learning, rather than as interconnected outcomes shaped by broader learning-oriented school cultures (Aldridge & Fraser, 2016; L. Huang et al., 2020; Zee & Koomen, 2016). This gap is especially relevant in highly centralized education systems, where structural constraints and limited school autonomy may shape the ways in which organizational learning processes influence teacher outcomes (Katsigianni & Ifanti, 2020; OECD, 2026). In addition, although self-efficacy has been identified as an important psychological mechanism linking school conditions with aspects of teacher well-being and professional learning, its potential mediating role in the relationship between SLO conditions, job satisfaction, and work effectiveness remains underexplored (L. Huang et al., 2020; X. Wang et al., 2024). As a result, the mechanisms through which learning-oriented school cultures shape teachers' psychological and professional functioning are not yet fully understood.

The present study addresses this gap by examining the relationships among SLO characteristics, teacher self-efficacy, job satisfaction, and work effectiveness in Greek primary schools. Using data from nine public schools and validated measurement tools, the study investigates both direct and mediated associations, with particular attention to self-efficacy as a possible explanatory mechanism. By focusing on a highly centralized educational context, the study contributes to broader discussions on how organizational learning and school leadership may support teacher well-being and professional functioning where school autonomy is limited.

Accordingly, the study was guided by the following research questions:

- 1) How do Schools as Learning Organizations (SLO) relate to teachers' self-efficacy, job satisfaction, and work effectiveness?
- 2) Does teacher self-efficacy mediate the relationship between SLO conditions and job satisfaction?
- 3) Does teacher self-efficacy mediate the relationship between SLO conditions and work effectiveness?

Literature Review

Schools as Learning Organizations

The concept of the School as a Learning Organization (SLO) derives from organizational learning theory and refers to a school's capacity to adapt and respond to changing educational demands. From this perspective, schools are viewed as dynamic systems in which teachers engage in collaborative inquiry, collective problem-solving, and reflective dialogue in order to improve teaching and learning (Kools & Stoll, 2016; Senge, 1990). Core features of SLOs include a shared vision, collective responsibility for student outcomes, and routines that support the use of evidence for professional decision-making (Schechter, 2008; Schechter et al., 2022; Silins et al., 2002).

SLOs combine structural conditions—such as protected time for collaboration, opportunities for peer learning, and data-informed decision-making—with cultural norms of trust, openness, and shared responsibility. Organizational learning, therefore, depends not only on shared values but also on institutionalized processes that support the collection, sharing, interpretation, and use of information for school improvement (Schechter et al., 2022). Research suggests that such environments strengthen teacher collaboration, support professional learning, and sustain engagement in improvement processes (OECD, 2020; Vangrieken et al., 2017). Similarly, the notion of the learning school highlights the alignment of school culture, relationships, and organizational structures around learning as a shared core purpose (Middlewood et al., 2005).

Educational leadership is central to the development of these conditions. Leaders help shape the routines, relationships, and norms that enable collaboration, inquiry, and innovation. In this sense, schools as learning organizations depend not only on supportive structures but also on leadership that creates coherence, encourages professional dialogue, and sustains collective commitment to improvement (Harris & Jones, 2018). Under such conditions, teachers are more likely to feel psychologically safe, professionally valued, and able to contribute meaningfully to school development, thereby strengthening their sense of competence, autonomy, and agency in relation to student learning (Collie, 2023; Schleicher, 2018).

These demands become even more pronounced in centralized systems, where limited school autonomy often requires school leaders to mediate between external mandates and teachers' professional needs. In such settings, leadership practices that encourage shared decision-making, open communication, and team-based problem-solving may help sustain organizational learning in everyday school life. In the present study, SLO characteristics are therefore understood as organizational and cultural conditions, shaped in part through leadership, that may influence teachers' beliefs, motivation, and instructional behavior.

Teacher Self-Efficacy

Teacher self-efficacy refers to teachers' beliefs in their capability to organize and execute the actions required to promote student learning (Bandura, 1997). These beliefs develop through mastery experiences, vicarious learning, social persuasion, and the interpretation of emotional cues in classroom settings (Tschannen-Moran & Hoy, 2001). High levels of self-efficacy have consistently been associated with persistence, effective classroom management, and openness to instructional innovation (Skaalvik & Skaalvik, 2010; Zee & Koomen, 2016).

Recent research highlights the central role of self-efficacy in teacher well-being and professional functioning. X. Wang et al. (2024) found that self-efficacy is positively associated with teacher well-being, with teaching satisfaction and resilience acting as important mediating mechanisms. Similarly, L. Huang et al. (2020) suggest that supportive organizational conditions can strengthen teachers' efficacy beliefs by shaping leadership practices, learning opportunities, and professional engagement. In demanding contexts, self-efficacy may also function as a protective personal resource, supporting teachers' well-being, job satisfaction, and instructional functioning (D. Huang et al., 2025). Related evidence further indicates that teacher collaboration may enhance career well-being through self-efficacy, while distributed leadership may reinforce these relationships (G. Wang et al., 2025).

Learning-oriented school cultures may contribute to the development of self-efficacy by creating opportunities for co-planning, peer observation, and shared problem-solving. Such practices provide the mastery experiences, modeling, and constructive feedback that underpin efficacy beliefs. Leadership remains important in ensuring that these opportunities are meaningful, well-structured, and aligned with the instructional goals of the school. This interpretation is further supported by recent review evidence pointing to a close relationship between teacher leadership and self-efficacy across diverse educational contexts (Luo et al., 2024).

Teacher Job Satisfaction

Teacher job satisfaction refers to teachers' emotional evaluations of their work environment, including relationships with colleagues, opportunities for professional growth, and the broader organizational climate (Dinham & Scott, 2000). It is closely associated with retention, engagement, and instructional performance, and is widely regarded as an important indicator of organizational health (Collie, 2023). Recent research suggests that job satisfaction is shaped not only by general organizational conditions but also by context-specific professional demands and opportunities for growth (Aitjanov et al., 2025). International evidence further shows that school working conditions—particularly leadership support, student discipline, workload, and opportunities for professional development—are meaningfully related to teacher job satisfaction across educational contexts (Eryilmaz et al., 2025).

Learning-oriented school cultures are likely to promote higher levels of job satisfaction by fostering collegiality, shared values, and constructive collaboration. Teachers working in such environments are more likely to perceive their work as meaningful and professionally rewarding (Kools & Stoll, 2016; Stoll et al., 2006). Trust and psychological safety, which are commonly cultivated in SLOs, also appear to be central to well-being and positive emotional engagement (Skaalvik & Skaalvik, 2020). This is consistent with evidence showing that teachers' perceptions of school context are closely related to job satisfaction and motivation for teaching (Skaalvik & Skaalvik, 2020). Recent work on professional learning communities similarly highlights the importance of trust in colleagues for strengthening teacher job satisfaction (Singh & Loh, 2024).

Taken together, these findings suggest that SLO practices such as reflective dialogue, open communication, and shared decision-making may create organizational conditions in which teachers feel supported, valued, and more satisfied with their professional work.

Teacher Work Effectiveness

Teacher work effectiveness concerns teachers' perceptions of their ability to carry out instructional tasks, manage classroom dynamics, and support diverse learners. It is influenced by pedagogical knowledge, reflective capacity, and emotional readiness for daily teaching (Hattie, 2008; Hoy & Miskel, 2012).

Self-efficacy has consistently been shown to relate positively to work effectiveness, as teachers who feel capable are better able to address classroom challenges and adapt their instructional strategies when needed (D. Huang et al., 2025; Zee & Koomen, 2016). Organizational conditions also play an important role. Learning-oriented environments that encourage shared expertise, feedback, and inquiry provide both structural and relational supports that help teachers refine their practice (Silins & Mulford, 2004). Recent research further indicates that professional cultures grounded in teamwork and inquiry promote coherence and confidence in everyday practice (Vangrieken et al., 2017).

SLO characteristics may therefore influence work effectiveness both directly, through enhanced organizational support for practice, and indirectly, through strengthened self-efficacy. In this sense, learning-oriented school cultures may help teachers translate professional learning into more confident and effective instructional behavior.

Relationships among SLO, Self-Efficacy, Job Satisfaction, and Work Effectiveness

A growing body of literature points to interrelated pathways through which learning-oriented school cultures shape teachers' psychological and professional outcomes. Schools functioning as learning organizations tend to cultivate collaborative inquiry, open communication, and shared problem-solving, thereby creating work environments that are more coherent, supportive, and professionally meaningful (Kools & Stoll, 2016; Schechter, 2008). These effects appear to be reinforced through organizational learning processes that support the collection, interpretation, sharing, and use of information for ongoing school improvement (Schechter et al., 2022).

Within this broader framework, teacher self-efficacy emerges as a particularly important mechanism linking organizational conditions with teacher outcomes. Learning-oriented school environments provide mastery experiences, modeling opportunities, and constructive feedback, all of which are recognized as core sources of efficacy beliefs (Bandura, 1997; Tschannen-Moran & Hoy, 2001). Teachers working in collaborative and supportive settings are therefore more likely to report stronger confidence in managing classrooms and promoting student learning (Skaalvik & Skaalvik, 2010; X. Wang et al., 2024).

Self-efficacy, in turn, appears to be closely related to job satisfaction and work effectiveness. Teachers who feel more capable are more likely to approach professional challenges constructively and to experience a stronger sense of competence and value in their roles (Collie, 2023; Dinham & Scott, 2000). At the same time, SLO characteristics may also enhance job satisfaction more directly through trust, collegial support, and shared decision-making (Liu et al., 2023). Similarly, work effectiveness is shaped not only by teachers' confidence but also by organizational conditions that provide opportunities for professional learning, feedback, and refinement of practice (Aldridge & Fraser, 2016).

Taken together, the literature suggests that SLO characteristics are associated with teacher self-efficacy, job satisfaction, and work effectiveness, while self-efficacy may serve as an important mediating mechanism in these relationships. This conceptual perspective provides the foundation for the analyses conducted in the present study.

Methodology

Research Design

This study employed a cross-sectional quantitative survey design to examine how characteristics of Schools as Learning Organizations (SLO) relate to teacher self-efficacy, job satisfaction, and work effectiveness. A cross-sectional design was considered appropriate because it enables the examination of associations among multiple organizational and psychological variables across different school settings within a four-month period of data collection. It was also suitable for exploring both direct and mediated relationships in a context where the purpose was explanatory rather than causal.

The study involved nine public primary schools that differed in size, demographic composition, and organizational structure. This variation provided a useful context for examining differences in learning-oriented practices and broader organizational conditions. Teachers completed a structured questionnaire including validated measures of SLO characteristics, self-efficacy, and job satisfaction. In addition, student data were used to derive an externally informed indicator of teacher work effectiveness.

To reduce the risk of common method bias, participation was anonymous, item formats varied across constructs, and respondents were reminded that there were no right or wrong answers. To complement the teacher data, supplementary information was collected from students in the same schools. These questionnaires focused on teaching practices and classroom management. Student responses were not analyzed as independent individual-level observations; instead, they were aggregated at the school level and used only to construct a school-based indicator of

teacher work effectiveness. This approach was adopted in order to align the level of the outcome measure with the broader organizational focus of the study.

Sample and Data Collection

The teacher sample consisted of 94 public primary school teachers from nine schools located in different geographical settings. Participants varied in teaching experience, qualifications, subject specialization, and school roles, thus providing a broad cross-section of the primary education sector. Formal permission for the study had been granted by the relevant educational authorities before data collection began.

A supplementary sample of 364 students from the same nine schools completed short questionnaires assessing teaching practices and classroom management. In total, 497 student questionnaires were distributed, of which 364 were returned in usable form. Student responses were aggregated at the school level to produce one composite work-effectiveness score per school. This procedure was adopted because the outcome variable was intended to reflect a school-based instructional climate rather than statistically independent individual perceptions. It also ensured conceptual alignment between the school-related predictors and the outcome measure.

The nine schools were selected to reflect variation in school size, geographical location, and SLO profile. However, because participation depended on access, school-level consent, and willingness to take part, the sample should not be treated as fully representative of all Greek primary schools. This limitation is taken into account in interpreting the findings.

Instruments

Validated instruments were used to measure the four main constructs of the study: Schools as Learning Organizations (SLO), teacher self-efficacy, job satisfaction, and work effectiveness. All scales have been widely used in international research and are supported by strong psychometric evidence. Because the questionnaires were being used for the first time in the Greek context, a pilot test with 12 teachers was conducted to assess clarity, linguistic appropriateness, and ease of completion, leading to minor refinements in wording and item order.

Schools as Learning Organizations (SLO): Teachers' perceptions of their school as a learning organization were assessed using the Schools as Learning Organizations Survey (SLOS), based on the framework developed by Kools and Stoll (2016) and grounded in organizational learning theory (Senge, 1990; Silins et al., 2002). In the present study, the instrument comprised 65 items covering key dimensions such as shared vision, collaborative culture, inquiry, knowledge exchange, and learning-oriented leadership. The instrument was translated into Greek and pilot tested prior to administration, and minor wording refinements were made to improve clarity and reduce possible ambiguities. Teachers served as the primary informants for assessing school-level learning conditions.

Teacher self-efficacy: Teacher self-efficacy was measured using the 12-item TALIS scale (OECD, 2014), based on the conceptualization of Tschannen-Moran and Hoy (2001). The scale covers three domains: classroom management, instructional strategies, and student engagement, and has been supported by strong international validity evidence (Fackler et al., 2021; Zee & Koomen, 2016).

Teacher job satisfaction: Job satisfaction was assessed through eight TALIS items capturing satisfaction with the profession and the work environment (Dinham & Scott, 2000; OECD, 2014). Teachers completed this scale in line with its conceptualization as an internal evaluation of one's work context (Collie, 2023; Hascher & Waber, 2021).

Teacher work effectiveness: Teacher work effectiveness was assessed through a 16-item student questionnaire developed for the purposes of the study, using items derived from the OECD Student Common Part Questionnaire (PISA 2015). The scale comprised two dimensions: (a) Teaching and Promoting Students' Learning (11 items) and (b) Managing the Class (5 items). Student ratings were used as an externally informed indicator of instructional functioning. At the same time, student perceptions may also reflect subjective classroom experiences, and this limitation should be considered when interpreting the findings.

To align the outcome measure with the level of analysis, student responses were aggregated at the school level, producing one work-effectiveness score per school. This approach avoided treating individual student responses as statistically independent teacher-level observations and ensured conceptual consistency between the organizational predictors and the outcome variable.

Reliability and Measurement Validity

All scales demonstrated acceptable to high internal consistency. Cronbach's alpha coefficients ranged from .721 to .967 across the study measures, indicating satisfactory overall reliability. Item-total correlations further suggested that the items contributed meaningfully to their respective constructs.

Given the available sample size, confirmatory factor analyses (CFAs) were conducted separately for the SLO, teacher self-efficacy, and job satisfaction scales using maximum likelihood estimation with robust standard errors. Fit indices

for the three scales were within acceptable ranges (CFI and TLI > .90; RMSEA < .08), supporting the adequacy of their factor structures. Standardized factor loadings were positive and statistically significant, indicating that the items performed in line with theoretical expectations.

A full structural CFA including all constructs simultaneously was not attempted because the available sample size was better suited to testing separate measurement models than to estimating a more complex full latent model, which generally requires larger samples for stable estimation and evaluation (Brown, 2015; Kline, 2023; Wolf et al., 2013). For the purposes of the present study, this approach was considered methodologically appropriate, as it allowed the adequacy of the separate measurement structures to be established before proceeding to regression and mediation analyses at the observed-variable level. Taken together, the reliability coefficients and CFA results support the construct validity of the measures used in the study.

Procedure

Data collection followed standardized procedures across the nine participating schools. After formal approval had been obtained from the relevant authorities, school principals were informed about the aims of the study and the procedures for questionnaire administration. Teachers received information about the purpose of the study, the voluntary nature of participation, confidentiality safeguards, and their right to withdraw. Written informed consent was obtained from all participating teachers. For student participation, parental consent was secured in accordance with national regulations, and students were informed in age-appropriate language about confidentiality and voluntary participation.

Teacher questionnaires were completed either electronically or in paper form, depending on school resources. Student questionnaires were administered collectively in class using standardized instructions and researcher support where needed. No identifying information was collected, and all data were anonymized and stored securely.

Data Analysis

Data analysis was conducted using IBM SPSS (version 28) and the PROCESS macro (Hayes, 2018). Preliminary screening included checks for data accuracy, missing values, and potential outliers. Missing data were minimal and were handled using pairwise deletion, as the pattern of missingness appeared random. Descriptive statistics were computed for all variables.

Internal consistency was assessed using Cronbach's alpha, with coefficients ranging from .721 to .967, indicating acceptable to high reliability. Assumptions of normality, linearity, and homoscedasticity were examined through skewness, kurtosis, and residual plots and were found to be within acceptable limits. Variance inflation factors indicated no problematic multicollinearity.

Pearson correlations were first computed to examine bivariate associations among SLO characteristics, teacher self-efficacy, job satisfaction, and work effectiveness. These analyses informed the subsequent regression models. Hierarchical regression was selected because it allows the incremental contribution of conceptually ordered predictors to be examined, which is consistent with the study's aim of testing both direct associations and the additional explanatory role of teacher self-efficacy. Initial models assessed SLO characteristics as predictors of teacher self-efficacy, job satisfaction, and work effectiveness. Subsequent models introduced self-efficacy in order to examine its potential mediating role, as well as changes in explained variance and the unique contribution of each predictor.

Mediation analyses were conducted using PROCESS Model 4 with 5,000 bootstrapped resamples. This approach is widely used for estimating indirect effects and is recommended because bootstrapped confidence intervals provide a more robust basis for inference than normal-theory tests alone when assessing mediation effects. Indirect effects were considered statistically significant when the 95% bias-corrected confidence interval did not include zero (Hayes, 2018; Preacher & Hayes, 2004, 2008). All analyses used two-tailed significance tests at $\alpha = .05$, and effect sizes, confidence intervals, and adjusted R^2 values were reported to improve interpretability.

To reduce common method bias, responses were anonymous, item formats varied, and teacher and student data were collected from separate sources. Harman's single-factor test was also conducted as a post hoc diagnostic. The first unrotated factor accounted for less than 40% of the variance, suggesting that no single factor dominated the data.

Sample Size Considerations

The teacher sample ($N = 94$) was considered adequate for the regression-based mediation analyses conducted in the study. Methodological literature suggests that samples of this size can be sufficient for detecting medium-sized indirect effects when bootstrapped confidence intervals are used (Fritz & MacKinnon, 2007; Hayes, 2018; Preacher & Hayes, 2008). At the same time, the sample was more appropriate for observed-variable analyses than for estimating a more complex full latent model, which typically requires larger samples for stable estimation (Kline, 2023; Wolf et al., 2013). Student data ($n = 364$) were used exclusively to generate aggregated school-level ratings of teaching and classroom management and were not treated as independent observations. Accordingly, sample size considerations relate primarily to the teacher dataset used in the main analyses.

Results

Profile of the Sample

The following tables provide a clear picture of the demographics of the 94 teachers (Table 1) and the students who participated in this research.

Table 1. Teachers' Profile

	Teachers' Characteristics	Frequency (N=94)	Percentage %
Gender	Woman	70	74.5%
	Man	24	25.5%
Age	Under 30 years	3	3.2%
	30-39 years	11	11.7%
	40-49 years	35	37.2%
	50-59 years	45	47.9%
	Over 60 years	0	0%
Highest Level of Formal Education	Pedagogical Academy	18	19.1%
	University of Pedagogy or another University	57	60.7%
	Master Degree	18	19.1%
	Doctoral Degree	1	0.1%
Years of Work Experience in Education	0-2 years	4	4.3%
	3-8 years	2	2.1%
	9-15 years	19	20.2%
	16-20 years	31	33%
	>20 years	38	40.4%
Current Employment Status	Part -time staff member	0	0%
	Substitute staff member	11	11.7%
	Permanently appointed staff member	83	88.3%
Years of Work at this School	0-2 years	30	31.9%
	3-8 years	33	35.1%
	9-15 years	19	20.2%
	16-20 years	6	6.4%
	>20 years	6	6.4%
Teacher Position in School	Specialty teacher (such as English, Informatics, Physical Education)	28	29.8%
	Teacher	66	70.2%

Table 2. Students' Profile

	Students' Characteristics	Frequency (N=364)	Percentage %
Gender	Girl	182	50%
	Boy	182	50%
Year of Birth	12 years old	6	1.6%
	11 years old	191	52.5%
	10 years old	167	45.9%
Grade	E' Grade	167	45.9%
	ST' Grade	197	54.1%

Descriptive Statistics

Descriptive statistics were computed for the four central constructs: schools as learning organizations (SLO), teacher self-efficacy, job satisfaction, and work effectiveness. As shown in Table 3, teachers reported moderately positive perceptions of SLO conditions ($M = 3.57$, $SD = 0.72$). Teacher self-efficacy and job satisfaction also showed moderate mean levels ($M = 3.28$, $SD = 0.69$ and $M = 3.28$, $SD = 0.68$, respectively). Work effectiveness, based on aggregated student ratings, had the lowest mean score ($M = 2.77$, $SD = 0.71$).

Table 3. Descriptive Statistics

Variables	Mean	SD
Schools as Learning Organization (SLO)	3.570	0.720
Teacher Self-Efficacy	3.280	0.690
Teacher Job Satisfaction	3.280	0.680
Teacher Work Effectiveness	2.770	0.710

Reliability of the Measures

As shown in Table 4, the reliability coefficients for the study measures ranged from .721 to .967, indicating acceptable to high internal consistency across the scales.

Table 4. Reliability of the Measures

Variables	Cronbach's α
Schools as Learning Organization (SLO)	.916-.967
Teacher Self-Efficacy	.721-.799
Teacher Job Satisfaction	.793-.943
Teacher Work Effectiveness	.811-.878

Correlations among the Main Variables

Pearson correlations among the four variables are presented in Table 5. All associations were positive and statistically significant ($p < .01$). SLO was positively correlated with self-efficacy ($r = .620$), job satisfaction ($r = .552$), and work effectiveness ($r = .581$). Self-efficacy was also positively correlated with job satisfaction ($r = .482$) and work effectiveness ($r = .517$). Job satisfaction was positively correlated with work effectiveness ($r = .462$).

Table 5. Correlations among Key Variables

Variables	1	2	3	4
Schools as Learning Organization (SLO)	—	.620**	.552**	.581**
Self-Efficacy	.620**	—	.482**	.517**
Job Satisfaction	.552**	.482**	—	.462**
Work Effectiveness	.581**	.517**	.462**	—

Note. $N = 94$ teachers. ** $p < .01$.

Regression Analyses

A series of regression analyses was conducted to examine the predictive relationships among the study variables. As shown in Table 6, SLO significantly predicted teacher self-efficacy, teacher job satisfaction, and teacher work effectiveness. In the multiple regression model predicting work effectiveness, job satisfaction and self-efficacy were entered together, and both remained significant predictors. Overall, the findings indicate that SLO was a consistent positive predictor across the three teacher-related outcomes, while self-efficacy and job satisfaction also made unique contributions to the prediction of work effectiveness.

Table 6. Summary of Regression Analyses

Outcome Variable	Predictor(s)	β	p	Adjusted R^2
Teacher self-efficacy	SLO	.620	< .001	.378
Teacher job satisfaction	SLO	.552	< .001	.297
Teacher work effectiveness	SLO	.581	< .001	.330
Teacher work effectiveness (multiple regression)	Job satisfaction	.277	.006	.311
	Self-efficacy	.383	< .001	.311

Mediation Analyses

Mediation analyses using PROCESS Model 4 (Hayes, 2018) examined whether self-efficacy functioned as an indirect pathway between SLO and both job satisfaction and work effectiveness.

SLO → self-efficacy → job satisfaction

As shown in Table 7, self-efficacy partially mediated the relationship between SLO and job satisfaction. SLO significantly predicted self-efficacy ($B = .532$), and self-efficacy significantly predicted job satisfaction ($B = .319$). The indirect effect

was significant ($B = .170$, 95% CI [.082, .289]), while the direct effect of SLO remained significant ($B = .472$), indicating partial mediation.

Table 7. Mediation Model: SLO → Self-Efficacy → Job Satisfaction

Path	B	Boot SE	95% CI
SLO → Self-efficacy	.532	.071	[.402, .674]
Self-efficacy → Job satisfaction	.319	.080	[.168, .471]
Indirect effect	.170	.052	[.082, .289]
Direct effect	.472	.087	[.301, .654]
Total effect	.642	.078	[.497, .795]

SLO → Self-Efficacy → Work Effectiveness

As shown in Table 8, self-efficacy also partially mediated the relationship between SLO and work effectiveness. The indirect effect through self-efficacy was significant ($B = .172$, 95% CI [.071, .295]), while the direct effect remained significant ($B = .355$), again indicating partial mediation.

Table 8. Mediation Model: SLO → Self-Efficacy → Work Effectiveness

Path	B	Boot SE	95% CI
SLO → Self-efficacy	.532	.071	[.402, .674]
Self-efficacy → Work effectiveness	.324	.090	[.151, .507]
Indirect effect	.172	.058	[.071, .295]
Direct effect	.355	.102	[.143, .556]
Total effect	.527	.094	[.349, .710]

Additional Robustness Checks

Several supplementary analyses were conducted to assess the stability of the findings. As summarized in Table 9, partial correlations controlling for teaching experience and school size showed minimal change in the overall pattern of associations among SLO, self-efficacy, job satisfaction, and work effectiveness ($\Delta r \leq .04$). Alternative hierarchical regression models predicting work effectiveness showed that self-efficacy remained a significant predictor after entering job satisfaction first. In addition, mediation models re-estimated using bias-corrected accelerated (BCa) bootstrapped confidence intervals produced significant indirect effects, consistent with the primary analyses.

Table 9. Summary of Additional Robustness Analyses

Analysis	Key Variables	Result Summary	Interpretation
Partial correlations (controlling for experience & school size)	SLO–Self-efficacy; SLO–Job satisfaction; Self-efficacy–Work effectiveness	Correlations remained significant and showed minimal change ($\Delta r \leq .04$)	Relationships are not driven by demographic differences
Alternative regression ordering	Job satisfaction → Work effectiveness; then + Self-efficacy	Self-efficacy remained a significant predictor	Self-efficacy adds unique explanatory value beyond satisfaction
BCa bootstrapped mediation	SLO → Self-efficacy → Outcomes	Indirect effects remained significant (95% CI did not include zero)	Mediation effect is stable under stricter estimation

Discussion

The present study examined how learning-oriented school cultures relate to teacher self-efficacy, job satisfaction, and work effectiveness in Greek primary schools. Overall, the findings support research suggesting that organizational conditions within schools are closely connected to teacher well-being, professional functioning, and instructional quality, particularly in contexts shaped by structural constraints and high professional demands (Collie, 2023; L. Huang et al., 2020; X. Wang et al., 2024). This broader pattern is also consistent with recent evidence showing that instructional leadership is associated with teacher well-being through organizational and psychological mechanisms such as workload stress and autonomy support (Chen & Yin, 2025).

First, the positive associations between SLO characteristics, teacher self-efficacy, and job satisfaction reinforce the view that school culture matters substantially for teachers' psychological and professional functioning. Teachers who perceived their schools as more learning-oriented also reported stronger self-efficacy and greater job satisfaction. These findings are consistent with evidence showing that collaborative routines, professional learning conditions, and supportive organizational environments can strengthen teachers' confidence, resilience, and engagement (Collie, 2023;

L. Huang et al., 2020; X. Wang et al., 2024; Zhang et al., 2023). They are also in line with research indicating that teachers' perceptions of school context are closely related to job satisfaction and motivation for teaching (Skaalvik & Skaalvik, 2020). Recent international evidence further highlights the importance of school working conditions—such as leadership support, student discipline, workload, and professional development—for teacher job satisfaction across educational settings (Eryilmaz et al., 2025).

Second, SLO characteristics were also positively related to work effectiveness, while self-efficacy and job satisfaction remained significant predictors when considered together. This suggests that instructional functioning is shaped by both organizational conditions and teachers' psychological resources. Teachers who feel more capable and more professionally supported may be better positioned to respond flexibly to classroom challenges and sustain effective instructional practice (D. Huang et al., 2025; Liu et al., 2023). The use of student-based indicators of work effectiveness strengthens this interpretation by adding an external perspective to teacher self-report data.

A central contribution of the study concerns the mediating role of self-efficacy. The finding of partial mediation suggests that learning-oriented school cultures influence teacher outcomes both directly and indirectly. In other words, such cultures appear to support job satisfaction and work effectiveness not only through collaborative structures and shared norms, but also through their influence on teachers' beliefs in their own professional capability. This interpretation is consistent with work highlighting self-efficacy as a key psychological mechanism linking school conditions to teacher well-being and performance (L. Huang et al., 2020; Liu et al., 2023; X. Wang et al., 2024). It is further supported by evidence showing that teacher collaboration can strengthen teachers' well-being through self-efficacy, while distributed leadership may reinforce these relationships (G. Wang et al., 2025). Recent longitudinal evidence likewise suggests that gains in teacher self-efficacy may contribute to subsequent improvements in job satisfaction and other valued educational outcomes (D. Huang et al., 2025). In a related way, research showing that instructional leadership influences teacher well-being through indirect pathways involving workload stress and autonomy support (Chen & Yin, 2025) is broadly consistent with the present finding that organizational conditions matter not only directly but also through mediating psychological processes.

These findings are particularly relevant in a highly centralized educational context. In systems where school autonomy is limited and professional decision-making may be constrained, learning-oriented cultures may function as an important internal resource for schools. Recent European and international work suggests that supportive professional environments and ongoing teacher development are especially important under such conditions (European Commission/EACEA/Eurydice, 2021; Kools & Stoll, 2016; Ventista & Brown, 2023). The present results indicate that such conditions may help buffer external pressures and support teachers' professional confidence, satisfaction, and day-to-day effectiveness.

At the same time, the role of leadership should not be viewed in exclusively positive terms. Although school leadership is important for fostering collaborative and inquiry-oriented cultures, leaders in centralized systems often work under considerable administrative and institutional constraints. Their ability to build and sustain learning-oriented environments may therefore depend not only on their own practices, but also on the wider policy and organizational conditions within which they operate (European Commission/EACEA/Eurydice, 2021; Leithwood et al., 2020). Leadership should therefore be understood not simply as a driver of change, but also as a practice shaped by structural limitations.

Overall, the study contributes to the organizational learning literature by showing that SLO characteristics, teacher self-efficacy, job satisfaction, and work effectiveness are better understood as interconnected rather than isolated elements. By linking school culture with teachers' psychological resources and student-informed indicators of effectiveness, the study provides a more integrated understanding of how learning-oriented cultures may support teacher development and instructional functioning in centralized education systems.

Conclusion

This study provides evidence that learning-oriented school cultures are associated with stronger teacher self-efficacy, higher job satisfaction, and greater work effectiveness. By showing both direct and indirect relationships among these variables, the study highlights that teacher development is shaped not only by individual characteristics but also by the organizational conditions of the school.

In the context of a highly centralized education system, the findings underline the importance of internal school culture as a source of professional support and stability. Schools that promote collaboration, inquiry, and shared responsibility may be better positioned to strengthen teacher confidence, well-being, satisfaction, and instructional functioning. In this sense, learning-oriented cultures may offer an important pathway for supporting teacher capacity in contexts where structural autonomy is limited.

Recommendations

Recommendations for Practice

The findings suggest that schools should strengthen structures and routines that support collaboration, reflective dialogue, and shared professional responsibility. School leaders can contribute to this by protecting time for collective work, encouraging inquiry-based professional learning, supporting peer observation, and embedding data-informed reflection into everyday school practice. Such actions may strengthen not only instructional improvement but also the psychological resources that support teacher engagement and effectiveness (Darling-Hammond et al., 2017; Kools & Stoll, 2016; Stoll et al., 2006).

At the policy level, efforts to promote organizational learning would benefit from reducing administrative burdens and supporting professional development that is continuous, school-based, and closely aligned with teachers' day-to-day work. Policymakers may also strengthen inter-school networks that enable schools to exchange practices and engage in collective problem-solving, particularly in systems where school autonomy is limited and leadership capacity is shaped by wider structural conditions (European Commission/EACEA/Eurydice, 2021; Leithwood et al., 2020).

Directions for Future Research

Future research should examine these relationships using longitudinal designs in order to clarify how organizational learning conditions and teacher outcomes develop over time. Multilevel approaches would also help distinguish more clearly between school-level and teacher-level processes. In addition, qualitative studies could provide deeper insight into how collaboration, inquiry, and leadership are experienced in everyday school life. Comparative studies across systems with different levels of autonomy may further clarify how structural conditions shape the influence of organizational learning on teacher well-being and professional functioning.

Limitations

Several limitations should be acknowledged. First, the cross-sectional design does not allow causal conclusions to be drawn. The observed relationships may be reciprocal or may develop dynamically over time and therefore should not be interpreted as evidence of causal direction. Second, the sample was drawn from nine public primary schools, which limits the generalizability of the findings to other educational levels, school types, or governance contexts. Third, the teacher variables were based on self-report data and may therefore reflect subjective perceptions, despite the procedural steps taken to reduce response bias. Finally, although student data provided a valuable additional perspective, they were aggregated at the school level and did not allow multilevel or individual-level analysis of classroom processes.

Ethics Statement

The study involving human participants (teachers and students) was reviewed and approved by the Hellenic Ministry of Education and Religious Affairs – Institute of Educational Policy (IEP), in accordance with national ethical guidelines for research in public schools.

All participating teachers provided written informed consent after receiving information about the aims of the study, data confidentiality, and their right to withdraw at any time. For student participation, parental consent was obtained following national regulations, and students were informed in age-appropriate language about anonymity and voluntary participation.

No personal identifying information was collected, and all data were anonymized and handled in accordance with ethical research standards.

Generative AI Statement

The author has not used generative AI or AI-supported technologies.

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