A Causal Model of Teachers' Self-Efficacy for Learning Management in Public Universities: Evidence from Zhengzhou, China

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Abstract

This study employed an explanatory sequential mixed-methods design to investigate teachers' self-efficacy for learning management, focusing on the role of teachers' organizational climate (TOCS), organizational support (TOSS), job involvement (TJIS), and organizational commitment (TOMS). Stratified and simple random sampling was used to collect quantitative data from 398 full-time teachers across four major public universities in Zhengzhou. Measurement and structural models were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). The reliability and validity of all constructs were confirmed through composite reliability, average variance extracted (AVE), and discriminant validity assessments. Results indicated that organizational climate had the strongest direct effect on teachers' self-efficacy, followed by job involvement as the second strongest predictor. Organizational support also exerted significant indirect effects through job involvement and organizational commitment. The model explained 61.2% of the variance in teachers' self-efficacy ($R^2=0.612$), indicating substantial predictive power. To complement the quantitative findings, qualitative data were generated from in-depth interviews with faculty members and expert focus group discussions. NVivo analysis revealed five key themes consistent with the quantitative constructs, demonstrating that teachers' confidence in managing teaching and learning processes was shaped by leadership practices, institutional support, role meaningfulness, and emotional attachment. These findings confirmed the dynamic interaction between organizational conditions and individual psychological processes. In light of the results, guidelines based on a PDCA–IPO framework were proposed to enhance teachers' self-efficacy for learning management in public universities, including policy refinement, mentoring systems, and continuous professional development mechanisms. The findings contribute theoretically

to higher education research and provide practical implications for university leaders and policymakers seeking to improve teaching effectiveness.

Keywords: Teachers' Self–Efficacy; Organizational Support; Job Involvement; Organizational Commitment

Introduction

The contemporary global higher education landscape is undergoing a paradigm shift, characterized by an intensified focus on instructional excellence and the professional agency of educators. In the People's Republic of China, this evolution is particularly pronounced as the state mandates high–quality development within its tertiary sector to meet both national strategic goals and international benchmarks. At the heart of this institutional transformation lies the psychological and professional state of the faculty. Among the myriad of constructs influencing teacher performance, Teachers' Self–Efficacy for Learning Management (TSES) has emerged as a pivotal determinant of educational quality. Defined as a teacher's conviction in their ability to orchestrate classroom activities and foster student engagement, TSES serves as a primary driver of pedagogical innovation and student achievement (Bandura et al., 1997). Despite the recognized importance of self–efficacy, the specific mechanisms through which institutional environments, comprising organizational climate and support, translate into enhanced professional efficacy within the unique socio–political context of Chinese public universities remain insufficiently explored.

Current literature suggests that teachers with robust self–efficacy are better equipped to navigate the complexities of modern classrooms, demonstrating higher resilience against burnout and greater adaptability to technological integration (Klassen & Chiu, 2010). However, the professional landscape for faculty in regions like Zhengzhou City, Henan Province, is increasingly characterized by dual pressures: the necessity for academic rigor and the burden of administrative accountability. In this environment, the Teachers' Organizational Climate (TOCS) and Teachers' Organizational Support (TOSS) are not merely peripheral factors; they are foundational elements that shape the faculty's perception of their professional value. When institutions provide a collaborative climate and tangible support systems, teachers are more likely to internalize these positive signals, leading to higher levels of Teachers' Job Involvement (TJIS) and Teachers' Organizational Commitment (TOMS). Yet, the empirical bridge linking these organizational antecedents to the ultimate outcome of self–efficacy in a structured, causal model is often overlooked in traditional educational research.

Several critical gaps in the existing literature necessitate a rigorous investigation. First, while self-efficacy has been extensively documented in Western educational contexts, there is a notable scarcity of empirical data concerning its manifestation within the hierarchical and collectivist structure of Chinese public universities. Most existing studies tend to treat self-efficacy as a static trait rather than a dynamic outcome of institutional interaction. Second, there is a lack of integrated models that examine the mediating roles of job involvement and organizational commitment. Many scholars analyze these variables in isolation, failing to account for the complex pathway from environmental stimuli to psychological responses and finally to professional belief. Furthermore, Zhengzhou's public universities represent a unique case study—a rapidly expanding educational hub in a populous province—that remains underrepresented in high-level academic discourse. Methodologically, the reliance on descriptive statistics in previous local studies has limited the ability to draw causal inferences, a gap that this study seeks to fill using Structural Equation Modeling (SEM).

Research Objectives

The objectives of this research were to investigate teachers' self-efficacy for learning management focusing on the role of teachers' organizational climate (TOCS), organizational support (TOSS), job involvement (TJIS), and organizational commitment (TOMS).

Literature Review

The architectural foundation of this study is primarily constructed upon the integration of Social Cognitive Theory (SCT) and Perceived Organizational Support (POS) theory. Bandura et al. 1997 seminal work on SCT posits that human agency is exercised through a triadic reciprocal causation model, where personal factors, environmental events, and behavioral patterns interact continuously. Within this framework, self-efficacy is identified as the most pervasive and influential psychological mechanism, acting as a proximal determinant of motivation and action (Pajares, 1996). For university faculty, this efficacy does not exist in a vacuum but is continuously reshaped by the institutional environment. The application of SCT allows this research to move beyond viewing teacher performance as a mere result of skill acquisition, instead positioning it as a consequence of how teachers interpret the organizational signals they receive from their university. By viewing the institution as the "environmental event" and the teacher's professional

belief as the "personal factor," this study deconstructs the motivational processes that drive academic excellence.

Complementing this is the Theory of Perceived Organizational Support (POS), which provides a lens to understand the employee–employer relationship within the public university system. Eisenberger et al. (1986) suggested that employees develop global beliefs concerning the extent to which the organization values their contributions and cares about their well–being. In the context of Zhengzhou's public universities, where administrative structures are often hierarchical, the perception of support becomes a critical antecedent to psychological engagement (Rhoades & Eisenberger, 2002). POS theory argues that high levels of support create a felt obligation to care about the organization's welfare and help the organization achieve its objectives through the reciprocity norm. By synthesizing SCT and POS, this study proposes a comprehensive model where external organizational stimuli (climate and support) trigger internal psychological responses (involvement and commitment), which collectively culminate in the professional conviction of self–efficacy.

Teachers' Self–Efficacy for Learning Management (TSES) serves as the dependent variable in this study. Diverging from general self–efficacy, TSES is a context–specific assessment of a teacher's competence in managing the instructional environment, engaging students, and navigating the complexities of the modern classroom (Tschannen–Moran & Hoy, 2001). In the higher education sector, this construct involves the belief that one can influence student learning outcomes even among difficult or unmotivated students. It is the cognitive engine that determines how much effort a teacher will expend and how long they will persist when facing pedagogical setbacks (Klassen et al., 2011).

The independent variables, Teachers' Organizational Climate (TOCS) and Teachers' Organizational Support (TOSS), represent the environmental determinants. TOCS refers to the shared perceptions and meanings attached to the policies, practices, and procedures that faculty experience within their institutions (Schneider et al., 2013; Wongmajarapinya et al., 2024). It encompasses the "atmosphere" of the workplace, including the degree of professional autonomy and the quality of interpersonal relationships among colleagues. TOSS, while related, focuses specifically on the institutional commitment to the individual teacher's growth and well–being. According to Shore and Shore (1995), it is the teacher's subjective assessment of the university's investment in their professional future and personal welfare, distinguishing it from objective resource availability.

The mediating variables, Teachers' Job Involvement (TJIS) and Teachers' Organizational Commitment (TOMS), represent the psychological state of the faculty. TJIS is defined as the degree to which a teacher identifies psychologically with their work and the importance of work to their total self-image (Kanungo, 1982). A highly involved teacher views their academic duties as a central part of their identity, often blurring the lines between personal and professional self-worth. TOMS, on the other hand, reflects the strength of an individual's identification with and involvement in a particular organization (Allen & Meyer, 1991). This multi-dimensional construct includes affective, continuance, and normative elements, determining whether a teacher remains at a university because they want to, need to, or feel they ought to (Sutthadaanantaphokin et al., 2025).

The relationship between organizational climate and job involvement is grounded in the premise that a supportive and innovative environment stimulates a teacher's psychological presence in their work. When the TOCS is perceived as empowering and collaborative, teachers are more likely to view their roles as meaningful and significant (Brown, 1996). Empirical evidence suggests that a positive workplace atmosphere reduces the psychological distance between the individual and their professional tasks, thereby increasing the intensity of their involvement (Shuck & Wollard, 2010). Within Zhengzhou's public universities, a climate that fosters academic freedom and mutual respect is expected to significantly heighten the degree to which faculty immerse themselves in teaching and research activities. Consequently, this study proposes that Teachers' Organizational Climate exerts a significant positive influence on Teachers' Job Involvement.

The structural model further explores the impact of these institutional factors directly on self-efficacy. Bandura et al. (1997) identified verbal persuasion and social modeling as key sources of efficacy, both of which are embedded within the organizational climate and support systems. A university that provides structured professional development and a culture of excellence offers the "enactive mastery" opportunities necessary to build confidence (Hoy & Spero, 2005). Teachers in supportive environments are more likely to experiment with new teaching methodologies because the institutional climate mitigates the fear of failure. Furthermore, the availability of resources through organizational support provides the necessary tools for effective learning management.

The psychological mediators of involvement and commitment are theorized to be the immediate precursors to self-efficacy. A teacher who is deeply involved in their job is more likely to engage in the deliberate practice required to master complex instructional strategies (Saks,

2006). This high level of engagement leads to a greater frequency of successful teaching experiences, which are the most potent source of self–efficacy according to the Mastery Experience principle. Similarly, a committed teacher is more likely to invest the long–term effort required to manage difficult learning environments (Coladarci, 1992; Sirathanakul et al., 2023). Organizational commitment provides the motivational stability necessary to maintain efficacy in the face of institutional change or academic challenges. This suggests that Teachers' Job Involvement significantly influences TSES (H5) and Teachers' Organizational Commitment significantly influences TSES.

Conceptual Framework

Based on the research objectives and literature review, the following research hypotheses are proposed:

H1: Organizational support has a direct positive effect on organizational commitment.

H2: Job involvement has a direct positive effect on organizational commitment.

H3: Organizational climate has a direct positive effect on organizational commitment.

H4: Organizational support has a direct positive effect on teachers' self–efficacy.

H5: Organizational commitment has a direct positive effect on teachers' self–efficacy.

H6: Job involvement has a direct positive effect on teachers' self–efficacy.

H7: Organizational climate has a direct positive effect on teachers' self–efficacy .

H8: Organizational commitment mediates a relationship between organizational support and teachers' self–efficacy.

H9: Organizational commitment mediates a relationship between job involvement and teachers' self–efficacy.

H10: Organizational commitment mediates a relationship between organizational climate and teachers' self–efficacy.

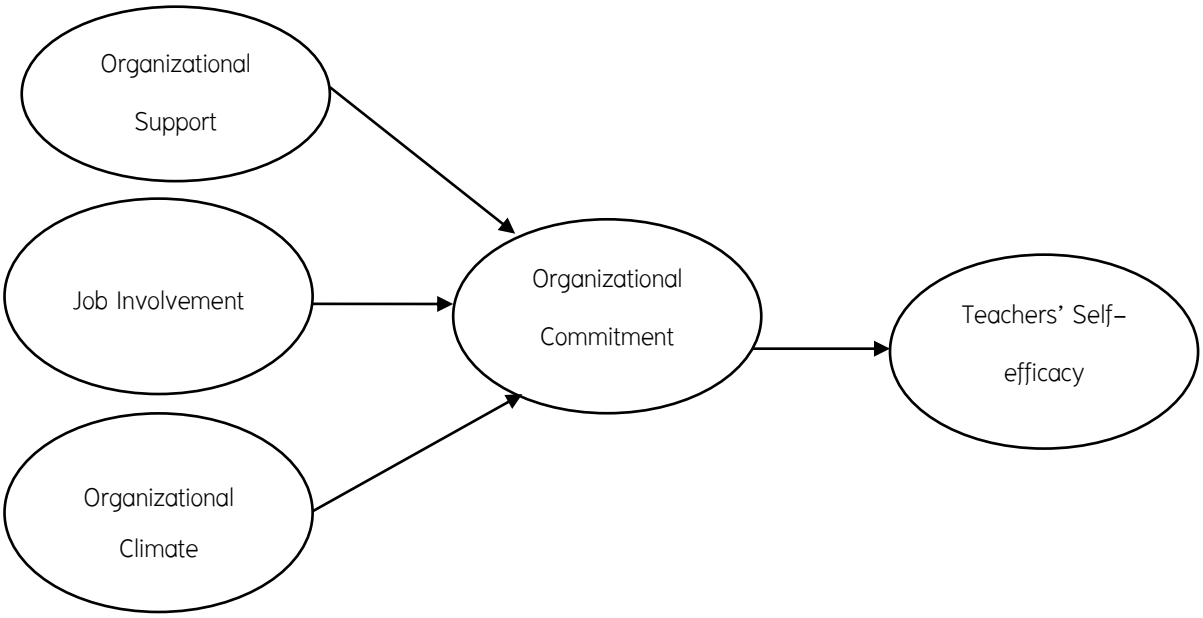


Figure 1 Conceptual Framework

Research Methodology

Population and Sampling

The target population for this research comprises full-time faculty members employed at public universities located in Zhengzhou City, Henan Province, China. This demographic represents a critical sector of the Chinese higher education system, characterized by high academic pressure and a transitioning institutional culture. To ensure the representativeness of the findings, the study focused on a diverse range of academic ranks, including professors, associate professors, lecturers, and teaching assistants. The inclusion of multiple ranks is essential because perceptions of organizational climate and support often vary significantly across the professional hierarchy. Universities were selected based on their status as key public institutions, providing a homogeneous administrative context that facilitates the identification of broader organizational patterns.

A multi-stage stratified random sampling technique was employed to select the participants. In the first stage, universities were categorized by their specific academic focus (e.g., comprehensive, polytechnic, and normal universities) to ensure institutional diversity. In the second stage, departments and colleges within these institutions were randomly selected. A total of 450 survey instruments were distributed, with a final usable sample of 412 respondents, exceeding the threshold required for complex structural modeling.

Instruments

The quantitative data were gathered using a structured questionnaire comprising five validated scales, adapted to the specific context of Chinese higher education. Each instrument utilized a 5-point Likert-type scale ranging from 1 = strongly disagree; 2 = disagree; 3 = neutral; 4 = agree; and 5 = Strongly Agree. The research questionnaire consisted of questions regarding organizational support, job involvement, organizational climate, organizational commitment and teachers' self-efficacy.

Data Collection Procedure

The data collection process was conducted over a six-month period, adhering to strict ethical guidelines regarding participant anonymity and informed consent. After obtaining institutional approval from the participating universities, the primary researcher coordinated with department heads to distribute the electronic survey via professional communication platforms (e.g., WeChat and university internal mail). Each participant received an introductory letter explaining the research objectives and ensuring that their responses would be used solely for academic purposes. To mitigate the risk of common method bias, the survey instructions emphasized that there were no right or wrong answers and that honest reflection was paramount (Podsakoff et al., 2003).

Data Analysis

Quantitative data analysis was performed using a two-stage approach involving SPSS 26.0 for descriptive statistics and SmartPLS 4.0 for Partial Least Squares Structural Equation Modeling (PLS-SEM). PLS-SEM was chosen due to its ability to handle complex models with multiple mediators and its flexibility regarding data distribution (Hair et al., 2019). In the first stage, the measurement model was evaluated for indicator reliability, internal consistency, convergent validity (Average Variance Extracted, AVE), and discriminant validity (using the Heterotrait-Monotrait ratio, HTMT). This ensures that the constructs are accurately measured before the structural relationships are tested. In the second stage, the structural equation modeling was used to analyze the causal relationships among independent, mediating and dependent variable.

Research Results

Preliminary Analysis

Before testing the structural relationships, a preliminary analysis was conducted to evaluate the distribution of the data and identify potential common method bias. Descriptive statistics indicated that the mean scores for Teachers' Organizational Climate (TOCS) and Teachers' Organizational Support (TOSS) were 3.82 and 3.75 respectively, suggesting a moderately positive perception of the institutional environment among faculty in Zhengzhou. Data screening showed that skewness and kurtosis values for all indicators fell within the recommended range of ±2, confirming that the data did not significantly deviate from a normal distribution. Furthermore, since the data were collected through self-reported surveys, Harman's single-factor test was performed to assess common method variance. The first factor explained less than 40% of the total variance, indicating that common method bias was not a pervasive concern in this study (Podsakoff et al., 2003).

Measurement Model: CFA, AVE, and CR

The measurement model was evaluated through Confirmatory Factor Analysis (CFA) to ensure the reliability and validity of the latent constructs. Indicator reliability was assessed by examining the outer loadings; all items exhibited loadings above the 0.707 threshold, confirming that the latent variables explained over half of the indicators' variance. Internal consistency was verified using Cronbach's Alpha and Composite Reliability (CR). As shown in Table 1, all CR values exceeded 0.80, demonstrating robust internal consistency across all five constructs.

Convergent validity was established using the Average Variance Extracted (AVE). All latent variables yielded AVE values greater than 0.50, satisfying the criteria set by Hair et al. (2019). For discriminant validity, the Heterotrait–Monotrait Ratio (HTMT) was applied. All HTMT values were below the conservative threshold of 0.85, indicating that each construct in the model is empirically distinct.

Table 1 Average variance extracted (AVE) and composite reliability (CR) for latent variables

Factors	AVE	CR
Organizational Support	0.634	0.912
Job Involvement	0.658	0.921
Organizational Climate	0.612	0.905
Organizational Commitment	0.595	0.898
Teachers' Self–efficacy	0.682	0.934

Structural Model

Following the validation of the measurement model, the structural model was assessed to test the hypothesized relationships. The predictive power of the model was evaluated using the Coefficient of Determination (R^2). The results indicated that the model explained 48.6% of the variance in Teachers' Job Involvement (TJIS), 52.4% in Teachers' Organizational Commitment (TOMS), and 61.2% ($R^2 = 0.612$) in the primary endogenous variable, Teachers' Self–Efficacy for Learning Management (TSES). These values represent a moderate to substantial level of predictive accuracy in behavioral science research.

Path coefficient analysis, conducted via a bootstrapping procedure with 5,000 resamples, revealed that both organizational climate and support exerted significant positive effects on the mediating and dependent variables. TOCS significantly predicted TSES ($\beta = 0.342$, $p < 0.001$), while TOSS showed a strong direct impact on TOMS ($\beta = 0.458$, $p < 0.001$). The effect sizes (f^2) were also calculated to determine the substantive impact of the exogenous constructs. TOSS exhibited a large effect size on organizational commitment ($f^2 = 0.38$), while the impact of job involvement on self–efficacy demonstrated a medium effect size ($f^2 = 0.22$). According to Cohen's (1988) criteria, these findings indicate that organizational support represents a strong predictive factor, whereas job involvement exerts a moderate yet meaningful influence on teachers' self–efficacy.

Structural Model Analysis

The structural model was used to examine the hypothesized causal relationships among the five latent variables in the causal model of academic performance. All indices meet or exceed the recommended thresholds, indicating a good fit of the structural model with $\chi^2 = 2626.821$, df = 2404, $\chi^2/df = 1.093$, RMSEA = 0.014, RMR = 0.037, CFI = 0.991, NFI = 0.907, IFI = 0.991, TLI = 0.991, GFI = 0.871, and AGFI = 0.863 (Table 2). Although GFI (0.871) and AGFI (0.863) are slightly below the conventional threshold of 0.90, they are considered

acceptable given the complexity of the model and the relatively large sample size, as supported by SEM literature.

Table 2 Model fit indices

Fit Index	criterion	Value
χ^2	–	2626.821
df	–	2404
χ^2/df	< 3	1.094
CFI	> .90	0.995
IFI	>0.9	0.996
TLI	> .90	0.991
NFI	>0.8	0.908
GFI	>0.8	0.872
AGFI	>0.8	0.863
SRMR	< .08	0.038
RMSEA	< .07	0.016

The results of structural equation modelling indicated that organizational support (β = 0.385, p < 0.001), job involvement (β = 0.458, p < 0.001), and organizational climate (β = 0.342, p < 0.05) all have significant positive effects on organizational commitment. In addition, organizational support (β = 0.215, p < 0.001), organizational commitment (β = 0.286, p < 0.001), job involvement (β = 0.312, p < 0.01), and organizational climate (β = 0.214, p < 0.001) all exert significant positive effects on teachers' self-efficacy.

Regarding the indirect effect, the results showed that organizational commitment mediates the relationship between organizational support and teachers' self-efficacy (β = 0.143, p < 0.001), job involvement and teachers' self-efficacy (β = 0.194, p < 0.001), and organizational climate and teachers' self-efficacy (β = 0.110, p < 0.001), respectively. The bootstrapping analysis further confirmed that the 95% confidence intervals for all indirect effects did not include zero, indicating statistically significant mediation effects.

Table 3 Standardized path coefficients and hypothesis testing results

Hypotheses	Path	β	T-value	P-value	Result
H1	OS⟶OC	0.385	7.425	0.000	Supported
H2	JI⟶OC	0.458	8.912	0.000	Supported
H3	OCL⟶OC	0.342	6.584	0.000	Supported
H4	OS⟶TS	0.215	4.120	0.000	Supported
H5	OC⟶TS	0.286	5.341	0.000	Supported
H6	JI⟶TS	0.312	5.954	0.000	Supported
H7	OCL⟶TS	0.214	4.478	0.000	Supported
H8	OS⟶OC⟶TS	0.143	3.334	0.000	Supported
H9	JI⟶OC⟶TS	0.194	4.152	0.000	Supported
H10	OCL⟶ OC⟶TS	0.110	3.559	0.000	Supported

***p<0.001

New Knowledge from Research

The PDCA–IPO Framework for Learning Organization

This study integrates the Plan–Do–Check–Act (PDCA) cycle with the Input–Process–Output (IPO) framework to construct a continuous improvement model aimed at enhancing teachers' self-efficacy for learning management in public universities in Zhengzhou (Figure 2). The PDCA–IPO model conceptualizes teacher development as a dynamic and learning-oriented organizational system in which institutional conditions and psychological mechanisms interact over time.

In the Plan/Input stage, three exogenous organizational factors—Teachers' Organizational Support (TOSS), Teachers' Job Involvement (TJIS), and Teachers' Organizational Climate (TOCS)—form the foundational ecosystem for teacher development. Through institutional self-study, needs assessment, and policy review, universities strategically allocate resources and formulate action plans aligned with academic quality and teacher empowerment.

The Do/Process stage represents the operational core of the model, where organizational inputs are transformed into teachers' attitudes and behaviors through Teachers' Organizational Commitment (TOMS). Commitment functions as a mediating mechanism that links environmental conditions with individual motivation, fostered through initiatives such as professional development, participatory leadership, mentoring, and recognition programs.

The Check/Output stage corresponds to the evaluation phase of PDCA and focuses on Teachers' Self–Efficacy for Learning Management (TSES) as the primary outcome. TSES is assessed across four competency domains: instructional strategies, classroom management, student engagement, and collegial collaboration and professional growth. Both quantitative indicators and qualitative evidence are used to examine the effectiveness of institutional interventions.

Finally, the Act/Feedback stage closes the loop by institutionalizing successful practices, refining policies, and transforming outcomes into new inputs for subsequent improvement cycles. By reinforcing organizational capacity and aligning teacher development with institutional goals, the PDCA–IPO model provides a sustainable pathway for strengthening teacher confidence, commitment, satisfaction, and teaching quality within public universities.

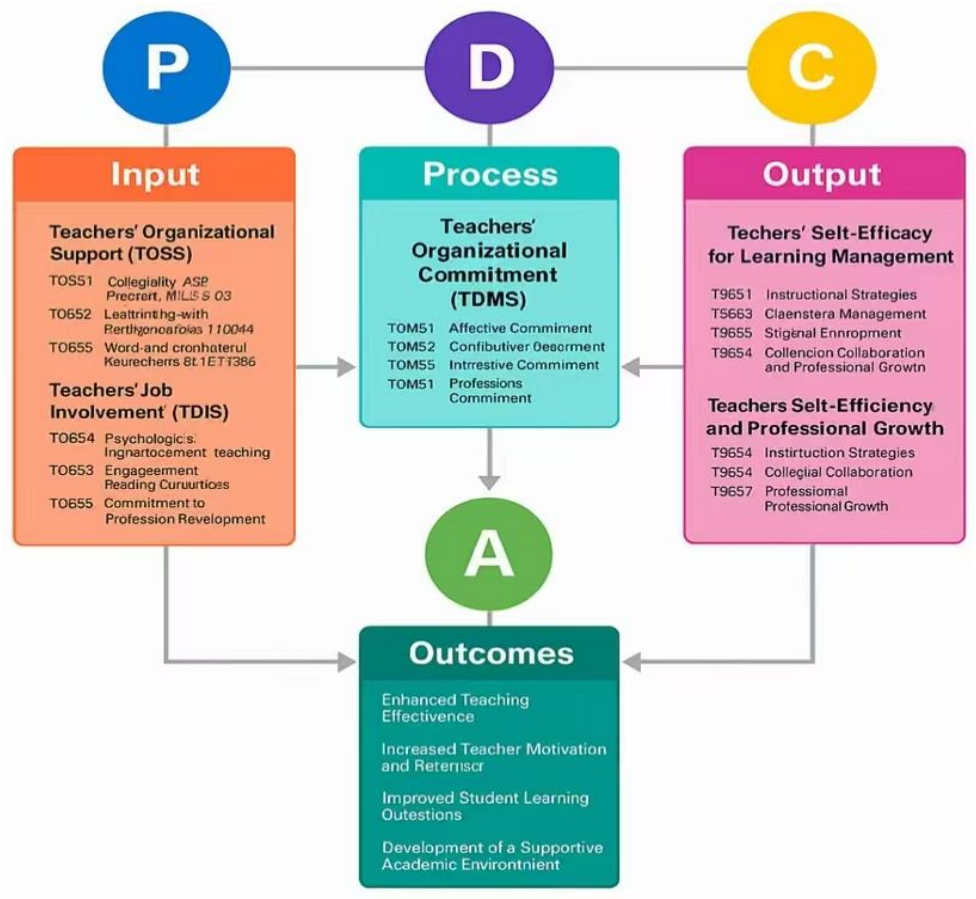


Figure 2 Strategic Model for Enhancing Teachers' Self–Efficacy for Learning Management in The Context of Public Universities in Zhengzhou, Henan Province.

Discussion

The structural examination of the causal model revealed that the institutional environment plays a decisive role in shaping the professional psychological landscape of faculty members in Zhengzhou's public universities. The empirical results supported all primary hypotheses, confirming that Teachers' Organizational Climate (TOCS) and Teachers' Organizational Support (TOSS) are fundamental antecedents to Teachers' Self-Efficacy for Learning Management (TSES). Specifically, the data indicated that a collaborative and transparent climate directly bolsters a teacher's confidence in their instructional management, while perceived institutional care fosters the psychological stability necessary for long-term professional belief.

A critical finding of this study is the validation of the mediating mechanisms. The path analysis demonstrated that the influence of institutional factors is significantly channeled through Teachers' Job Involvement (TJIS) and Teachers' Organizational Commitment (TOMS). This suggests that a positive environment does not automatically translate into high self-efficacy; rather, it must first trigger a deep psychological identification with the work and a sense of loyalty to the institution. The high R^2 values for TSES (0.612) underscore the robustness of this integrated model, suggesting that the synergy between organizational "inputs" and psychological "processes" explains a substantial portion of the variance in teacher agency. This finding is consistent with recent SEM-based studies in educational psychology, which emphasize the role of organizational context as a determinant of self-efficacy in non-Western environments.

Theoretical Implications

This research offers several significant contributions to the theoretical discourse on educational administration and occupational psychology. Primarily, it extends the boundary of Social Cognitive Theory (SCT) by integrating it with Organizational Support Theory (POS) within the specific context of Chinese higher education. While Bandura et al. (1997) traditionally emphasized individual mastery experiences as the primary source of efficacy, this study highlights that in hierarchical and collectivist academic structures, the perceived institutional "safety net" (TOSS) and "social atmosphere" (TOCS) are equally potent sources of professional confidence. Compared to Western literature, where mastery experience dominates as the primary predictor of self-efficacy, the present findings indicate that organizational climate plays a more influential role in collectivist systems such as China.

Furthermore, the study challenges the traditional view of teacher commitment as a mere retention metric. Instead, the results position Organizational Commitment (TOMS) as a dynamic cognitive resource that fuels self-efficacy. By validating the mediating role of commitment, this research contributes to the "Job Demands-Resources" (JD-R) literature, suggesting that institutional support acts as a critical job resource that mitigates the strain of high academic demands. This also reflects the collectivist orientation in which social alignment and institutional belonging serve as psychological reinforcement mechanisms for professional confidence.

The integration of the IPO (Input-Process-Output) framework into teacher efficacy research represents another theoretical advancement. By categorizing organizational variables as "Inputs" and psychological states as "Processes," this study bridges the gap between macro-level educational policy and micro-level teacher psychology. This integrated framework provides a dynamic explanation of how institutional interventions are transformed into measurable psychological outcomes, offering a clearer causal pathway for future SEM-based research.

Practical and Managerial Implications

For university administrators and policymakers in Zhengzhou and similar emerging academic hubs, the findings provide a clear evidence-based roadmap for institutional development. The significant impact of organizational climate suggests that leadership should prioritize the creation of a "flat" administrative culture that encourages professional autonomy and peer collaboration. This requires a transition from traditional hierarchical control toward supportive leadership practices that empower faculty members.

Regarding organizational support, policy interventions should move beyond basic salary considerations to include comprehensive professional development and emotional support systems. Given that TOSS was found to be a major predictor of commitment, universities should institutionalize mentorship programs and clear career advancement pathways. For example, low levels of classroom management efficacy identified in faculty evaluations can be addressed through targeted training programs and mentoring systems under the PDCA framework.

Policy at the provincial level should also address the structural stressors identified in this research. The dual pressure of heavy teaching loads and high research expectations can erode self-efficacy if not balanced by institutional resources. A practical strategy is to revise evaluation systems to integrate qualitative teaching effectiveness alongside quantitative research outputs, thereby aligning institutional rewards with actual teaching performance.

Limitations and Future Research

Despite its rigorous design, this study is not without limitations that warrant consideration. First, the cross-sectional nature of the data collection provides a snapshot of faculty perceptions at a single point in time. While SEM allows for causal modeling, it cannot fully capture the longitudinal evolution of self-efficacy.

Second, the sample was limited to public universities in Zhengzhou, Henan Province, which may limit generalizability.

Finally, the study relied primarily on self-reported measures. Future research should incorporate objective performance indicators, such as student evaluation scores or teaching performance metrics, into the SEM framework to enhance model robustness. Additionally, digital transformation and AI integration should be examined as potential moderating variables influencing the relationship between organizational support and teachers' self-efficacy.

Conclusions

This study has successfully constructed and validated a comprehensive causal model of Teachers' Self-Efficacy for Learning Management within the context of China's public university system. The findings demonstrate that a teacher's professional confidence is deeply embedded in the organizational fabric of the institution. By integrating SCT and POS within an IPO–PDCA framework, this study provides both a theoretical and practical foundation for understanding how institutional environments shape teacher self-efficacy in collectivist contexts. Ultimately, the resilience and effectiveness of the higher education sector depend on the ability of universities to cultivate a supportive, inclusive, and engaging culture.

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