

Research Article

FEMALE LEADERSHIP, ORGANIZATIONAL CLIMATE, AND TEACHER JOB PERFORMANCE IN A CHINESE APPLIED UNIVERSITY: TESTING A MEDIATION MODEL

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Abstract

Female leadership is expanding across Chinese higher education, yet how it translates into teacher job performance remains underspecified, particularly in applied, technology-oriented universities and in studies that explicitly test the intervening mechanism rather than a direct effect. Drawing on transformational leadership, organizational climate, and Leader–Member Exchange (LMX) theories, this study examines whether organizational climate mediates the relationship between female leadership and teacher job performance at a Chinese applied university. A cross-sectional survey was administered to 145 full-time teachers selected by proportional stratified sampling, using an 85-item Likert instrument with strong reliability (Cronbach's $\alpha = .97$) and sampling adequacy (KMO = .83). Data were analyzed using Pearson correlations and hierarchical multiple regression, with mediation assessed through Baron and Kenny's procedure together with the indirect-effect estimate. Female leadership predicted teacher performance, but this effect became non-significant once organizational climate was entered, whereas climate remained a strong predictor, indicating full mediation. Organizational climate therefore appears to be the proximate channel through which female leadership relates to teacher performance, extending the leadership–climate–performance chain to a non-Western, applied-university context and underscoring climate as a high-leverage focus for institutional policy. Because the data are cross-sectional and self-reported from a single institution, causal and common-method inferences are limited; bootstrap mediation and longitudinal, multi-source designs are recommended for confirmation.

Keywords: Gender and Leadership, Transformational Leadership, Leader–Member Exchange, Faculty Performance, Academic Work Motivation, Work Environment Perception

Introduction

China's national higher education modernization agenda — anchored by the Double First-Class initiative, expanding doctoral program authorization, and intensifying focus on research productivity and teaching quality — has placed the conditions for faculty excellence at the center of institutional strategy (Beijing Institute of Printing and Technology, 2024; Leithwood et al., 2019). Simultaneously, the progressive increase in women occupying department-head, decanal, and vice-presidential positions across Chinese universities has generated both policy interest and scholarly inquiry into how female leadership practices interact with institutional conditions to shape the performance of the teachers they lead (Eagly & Carli, 2003; Grogan & Shakeshaft, 2011; Madsen, 2012).

Two bodies of literature converge on the central problem of this study. The first concerns female leadership: the practice of translating relational, empathetic, and developmentally oriented behavioral tendencies into organizational management effectiveness (Eagly & Johannesen-Schmidt, 2001; Northouse, 2021). Research consistently documents that female leaders demonstrate higher levels of transformational leadership behaviors — notably individualized consideration and inspirational motivation — than their male counterparts on average, and that these behaviors are associated with positive subordinate outcomes (Bass & Riggio, 2006; Burns, 1978). The second concerns organizational climate: the collective perceptions of employees regarding the character of their working environment — encompassing team cohesion, communication openness, job satisfaction, and organizational culture — which has been established as a powerful, proximate predictor of employee performance across diverse sectors (Litwin & Stringer, 1968; Schneider et al., 2013; Kopelman et al., 1990).

The theoretical bridge connecting these bodies of literature is the leadership–climate–performance chain: the proposition that leadership is the primary distal antecedent of organizational performance, operating through the proximate mediating mechanism of organizational climate (Litwin & Stringer, 1968; Kopelman et al., 1990). Applied to female academic leadership, this chain generates a testable full mediation hypothesis: female leadership shapes the organizational climate, which in turn drives teacher performance, with no significant direct leadership-to-performance path remaining once climate is controlled. This hypothesis has received broad theoretical support, yet it has rarely been examined as an explicit mediation model in Chinese applied universities, whose distinctive policy environment—shaped by the national Double First-Class initiative and intense, publication-weighted research-performance pressures—plausibly conditions how leadership translates into climate and, ultimately, into performance. Importantly, the three theories are best read as a complementary blueprint rather than a list: transformational leadership theory explains how female leaders shape the climate (path a); organizational climate theory, together with self-determination and job demands–resources theories, explains why a supportive climate raises performance (path b); and Leader–Member Exchange theory supplies the micro-level mechanism—high-quality leader–follower exchanges—that aggregates into the departmental climate and so integrates the other two into a single leadership–climate–

performance chain. The present study addresses this contextual and conceptual gap at Beijing Institute of Printing and Technology (BIPT).

Female Leadership in Chinese Higher Education

Female leadership has been characterized in the empirical literature as distinctively relational, developmental, and transformationally oriented (Eagly & Carli, 2003; Helgesen, 1990). Female academic leaders demonstrate higher levels of individualized consideration — attentiveness to individual faculty members' needs, aspirations, and developmental challenges — and of inspirational motivation — the capacity to articulate compelling institutional vision and expect sustained high standards — compared to male leaders on average (Bass & Riggio, 2006; Eagly & Johannesen-Schmidt, 2001). They also exhibit greater use of participative decision-making, informal communication channels, and horizontal knowledge-sharing practices, generating more egalitarian and collaborative departmental dynamics (Grogan & Shakeshaft, 2011; Madsen, 2012).

In Chinese academic institutions, female leaders navigate a dual institutional ecology of enabling and constraining forces. Enabling factors include their well-documented relational strengths, which fit the interpersonal management demands of Chinese university departments, and the growing policy recognition of gender diversity as an institutional asset. Constraining factors include the persistent “think manager, think male” cultural schema (Heilman, 2001; Schein et al., 1996) that associates effective academic leadership with masculine attributes — strategic decisiveness, competitive resource acquisition, and authoritative institutional positioning — and systematically limits the recognized credibility of female leaders in these domains. At the micro-level, Leader-Member Exchange (LMX) theory provides the mechanism linking female leadership behaviors to follower outcomes: female leaders' relational investments build high-quality dyadic exchange relationships with individual faculty members, characterized by mutual trust, perceived organizational support, and reciprocal obligation (Graen & Uhl-Bien, 1995; Eisenberger et al., 1986). These high-quality relationships motivate discretionary effort and enhanced performance by satisfying the intrinsic motivational needs of autonomy, competence, and relatedness (Deci & Ryan, 2000).

Organizational Climate as Mediator of the Leadership-Performance Chain

Organizational climate — the shared perceptions of organizational members regarding the formal and informal environmental character of their workplace — has been established as the primary proximate determinant of organizational performance across a wide range of institutional contexts (Schneider et al., 2013; Litwin & Stringer, 1968). In university settings, climate has been operationalized across dimensions of team cohesion and collaboration, organizational communication quality, job satisfaction, work atmosphere, and organizational culture and values (Hoy & Miskel, 2013). The empirical relationship between positive organizational climate and elevated teacher performance across the teaching, research, and social-service dimensions is robust and well-replicated (Darling-Hammond et al., 2017), and is especially well documented for the teaching domain, where supportive school organization sustains effective teaching (Johnson, 2019, Chapter 1).

Multiple theoretical frameworks converge on this relationship. Self-Determination Theory (Deci & Ryan, 2000) identifies a positive climate as an organizational condition that satisfies teachers' basic psychological needs for autonomy, competence, and relatedness, thereby sustaining intrinsic motivation and discretionary engagement. Job Demands-Resources theory (Bakker & Demerouti, 2007) identifies positive climate elements as job resources that buffer the demotivating effects of heavy job demands — teaching loads, research expectations, evaluation pressures — thereby preserving engagement and performance across all three teacher role domains. The leadership–climate–performance chain (Litwin & Stringer, 1968; Kopelman et al., 1990) positions these climate benefits as the primary vehicle through which leadership style ultimately influences organizational performance. For female academic leadership specifically, the relational and developmental behaviors most associated with female leaders are precisely the behaviors that organizational climate research identifies as the primary drivers of the climate dimensions most strongly associated with performance (Schneider et al., 2013), providing the full mediation hypothesis that this study tests empirically.

Although the leadership–climate–performance chain is well established and female leadership is increasingly studied in higher education, three gaps remain. Conceptually, the full mediation hypothesis—that female leadership influences teacher performance only through organizational climate—follows directly from the chain, yet it has rarely been tested as an explicit mediation model rather than assumed; a search of Web of Science, Scopus, and CNKI combining female (academic) leadership, organizational climate, and teacher job performance returned few studies, and none that formally estimated the indirect effect in a Chinese applied-university setting. Methodologically, prior work has relied largely on bivariate or single-equation regression evidence and has seldom reported a formal mediation test, leaving the mechanism inferred rather than demonstrated. Contextually, Chinese applied (technology-oriented) universities operate under a distinctive policy regime—national initiatives such as Double First-Class and intense, publication-weighted research-performance pressures—that differs from comprehensive and Western institutions in mission, evaluation, and resource structure; because these dynamics directly shape research quotas, funding allocation, and the strategic latitude of academic leaders, the mediating mechanism cannot be assumed to operate identically in this setting. Therefore, this study tests organizational climate as the mediator of the female leadership–teacher performance relationship in a Chinese applied university, making the mechanism explicit and its contextual boundary conditions visible.

Research Objectives

To address the core research problem and provide a comprehensive empirical analysis, the specific objectives of this study are formulated as follows:

1. To test whether organizational climate mediates the relationship between female leadership and teacher job performance at BIPT, drawing on transformational leadership theory (path a), organizational climate theory complemented by self-determination and job demands–resources theories (path b), and Leader–

Member Exchange theory as the mechanism that aggregates individual leader–follower exchanges into the departmental climate.

2. To assess the perceived levels of the three constructs (female leadership, organizational climate, and teacher job performance).

3. To examine their bivariate relationships as a prerequisite for interpreting the mediation test.

Research Questions

The study is guided by one principal research question and two supporting sub-questions:

RQ1: Does organizational climate mediate the relationship between female leadership and teacher job performance at BIPT?

RQ1a: What are the perceived levels of female leadership, organizational climate, and teacher job performance at BIPT?

RQ1b: What are the bivariate relationships among female leadership, organizational climate, and teacher job performance?

Research Hypotheses

Derived from the leadership–climate–performance chain, three hypotheses are tested:

H1: Female leadership is positively associated with organizational climate (path a; transformational leadership theory).

H2: Organizational climate is positively associated with teacher job performance, controlling for female leadership (path b; organizational climate theory, self-determination theory, and job demands–resources theory).

H3: Organizational climate mediates the female leadership–teacher job performance relationship, such that the direct effect of female leadership becomes non-significant when climate is controlled (full mediation; indirect path $a \times b$; Leader–Member Exchange theory).

Conceptual Framework

The conceptual framework guiding this study is derived from the leadership–climate–performance chain (Litwin & Stringer, 1968; Kopelman et al., 1990), which positions leadership as a distal antecedent that influences organizational outcomes through the proximate mechanism of organizational climate. Three core constructs are specified:

- **Independent Variable (IV):** Female leadership, denoting relational, developmental, and transformational behaviors of female academic leaders.
- **Mediating Variable (MV):** Organizational climate, denoting teachers' shared perceptions of working environment support, fairness, collegiality, and resource conditions.

- **Dependent Variable (DV):** Teacher job performance, denoting work quality across teaching, research, and service responsibilities.

As illustrated in Figure 1, the framework advances a mediation hypothesis tested empirically using Baron and Kenny's (1986) four-step procedure:

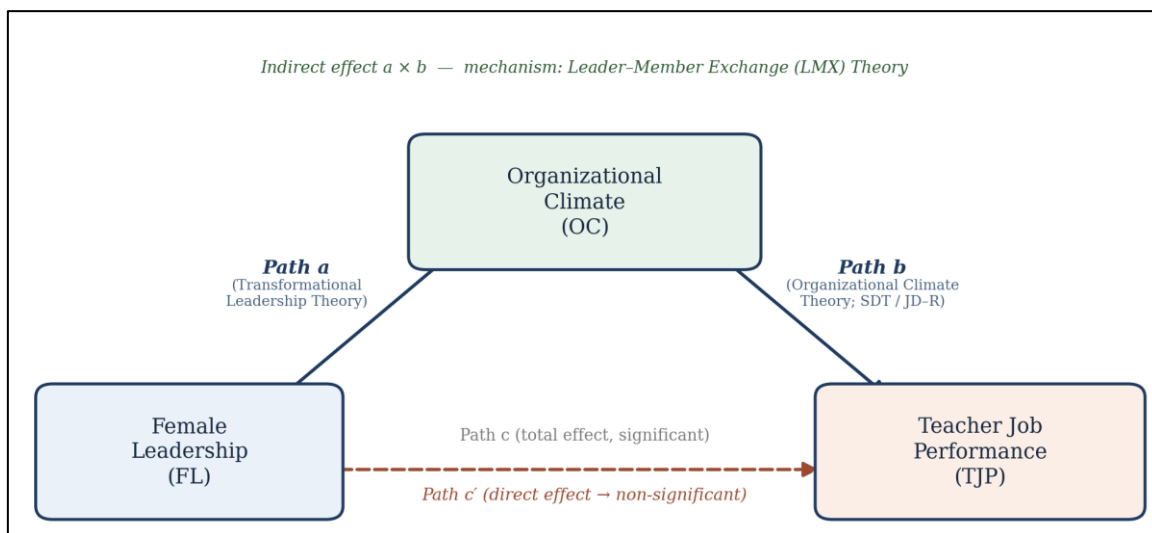
- **Path *a* (H1):** Represents the effect of female leadership on organizational climate, grounded in *transformational leadership theory*.

- **Path *b* (H2):** Represents the effect of organizational climate on teacher job performance. A positive climate satisfies basic psychological needs (Deci & Ryan, 2000). It serves as a job resource sustaining engagement (Bakker & Demerouti, 2007), grounded in *organizational climate theory*, *self-determination theory*, and *job demands–resources theory*.

- **Path *c'* & Indirect Path *a* × *b* (H3):** Represents the mediation mechanism grounded in *Leader–Member Exchange theory*, where individual exchanges aggregate into departmental climate. Full mediation assumes the indirect path (*a* × *b*) is significant, while the direct path (*c'*) becomes non-significant under statistical control.

Figure 1

Conceptual framework of the hypothesized full mediation model linking female leadership, organizational climate, and teacher job performance



Research Methodology

Research Population and Sample

This study employed a cross-sectional quantitative survey design. The target population comprised all 420 full-time teachers at the Beijing Institute of Printing and Technology (BIPT). Using proportional stratified sampling by academic position (Professor, Associate Professor, Lecturer, Teaching Assistant) and disciplinary

field (Humanities; Science and Engineering), the population was divided into eight strata (Cohen et al., 2018). Of a target sample of 120, 145 valid questionnaires were returned (100% response rate). Reflecting BIPT's institutional structure, the realized sample was predominantly composed of Lecturers in Science and Engineering ($n = 40$, 27.6%) and Humanities ($n = 27$, 18.6%), with the majority holding doctoral degrees.

At BIPT, women hold academic leadership roles at the department head, dean, and vice president levels. Thus, the female leadership construct reflects teachers' perceptions of the female academic leaders to whom they directly report, rather than a single individual, allowing leadership perceptions to aggregate appropriately to the departmental level for this climate mediation model.

An *a priori* power analysis using G*Power 3.1 for linear multiple regression with two predictors indicated that a minimum sample of 68 cases was required to detect a medium effect ($f^2 = .15$) at $\alpha = .05$ with power = .80. The target ($N = 120$) and realized ($N = 145$) samples both exceed this threshold, yielding a post hoc power approaching 1.00 for focal coefficients. While the 85-item instrument with $N = 145$ creates a low item-level subject-to-item ratio (~1.7:1), the exploratory factor analysis (EFA) was conducted at the level of the 15 section composites. This yielded an effective ratio of approximately 9.7:1, aligning with the 5:1–10:1 guidance of Hair et al. (2019).

Strict ethical guidelines were followed. The study complied with the host institution's ethics procedures, ensuring voluntary and anonymous participation, obtaining informed consent prior to data collection, and analyzing all data strictly in aggregate.

Research Instrument and Measures

An 85-item composite questionnaire, using a 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree), was divided into three sections (modules) for data collection. Module 1 (Female Leadership; Items 1–50, Sections A–H) measured eight theoretically grounded dimensions: Inspirational and Motivational Leadership (A), Strategic Vision and Ethical Leadership (B), Communication and Collaborative Leadership (C), Operational Effectiveness and Ethical Practice (D), Systematic Management and Organizational Development (E), Leadership Style and Organizational Atmosphere (F), Team Motivation, Vision, and Organizational Performance (G), and Transformational and Standards-Based Leadership (H). Module 2 (Organizational Climate; Items 51–70, Sections I–L) measured four dimensions: Team Cohesion and Collaboration (I), Organizational Communication (J), Job Satisfaction and Work Atmosphere (K), and Organizational Culture and Climate (L). Module 3 (Teacher Job Performance; Items 71–85, Sections M–O) measured three dimensions: Teaching Performance (M), Research Performance (N), and Social Service Performance (O). Items were adapted from established scales, translated into Mandarin Chinese, back-translated for equivalence, reviewed by five content experts, and pilot-tested ($n = 30$; Cronbach's $\alpha = .82$ –.91 per section).

For each module, items were adapted from the established scales summarised in Table 1. The English item pool was translated into Mandarin Chinese and independently back-translated by a second bilingual translator, and discrepancies were reconciled to preserve conceptual equivalence. Content validity was

examined by five content experts holding doctoral qualifications in educational leadership, management, or measurement, using an item-objective congruence (IOC) / content-validity-index procedure; items were retained where the item-level content-validity index (I-CVI) was at least .80, and the scale-level index (S-CVI/Average) was at least .90.

Table 1 Source of Measurement Items by Module and Dimension

Module/Construct	Dimensions	Source scales adapted
Module 1: Female Leadership	Inspirational and Motivational; Strategic Vision and Ethical; Communication and Collaborative; Operational Effectiveness and Ethical Practice; Systematic Management; Leadership Style and Atmosphere; Team Motivation and Vision; Transformational and Standards- Based (Sections A–H)	Multifactor Leadership Questionnaire and transformational-leadership frameworks (Avolio & Bass, 2004; Bass & Riggio, 2006; Northouse, 2021; Yukl, 2013)
Module 2: Organizational Climate	Team Cohesion and Collaboration; Organizational Communication; Job Satisfaction and Work Atmosphere; Organizational Culture and Climate (Sections I–L)	Organizational-climate measures (Litwin & Stringer, 1968; Hoy & Miskel, 2013; Schneider et al., 2013)
Module 3: Teacher Job Performance	Teaching Performance; Research Performance; Social Service Performance (Sections M–O)	Teacher/faculty performance frameworks across teaching, research, and service (Darling-Hammond et al., 2017; Johnson, 2019)

Data Analysis

All analyses were conducted in IBM SPSS Statistics (Field, 2018). Reliability was evaluated using Cronbach's alpha for the overall instrument. Construct validity was assessed with an Exploratory Factor Analysis (EFA), using Principal Component Analysis with Varimax rotation (Hair et al., 2019). The Kaiser–Meyer–Olkin (KMO) statistic and Bartlett's test of sphericity indicated that the data were suitable for factor analysis. Bivariate associations were analyzed using Pearson product-moment correlations, and multiple regression was performed in two hierarchical steps: Model 1 (Female Leadership only as a predictor of Teacher Job Performance) and Model 2 (Female Leadership and Organizational Climate simultaneously as predictors). Full mediation was tested using Baron and Kenny's (1986) four-step procedure: Step 1 (FL predicts OC), Step 2

(FL predicts TJP), Step 3 (OC predicts TJP, controlling for FL), and assessment of whether the FL direct-effect coefficient becomes non-significant when OC is controlled. Multicollinearity was examined using tolerance and the variance inflation factor (VIF) in Model 2, and the indirect effect ($a \times b$) was computed as a standardized point estimate together with the proportion of the total effect mediated. Because the analysis was conducted in SPSS using regression-based mediation, average variance extracted (AVE), composite reliability (CR), and confirmatory-factor-analytic tests of convergent and discriminant validity were not estimated; this is acknowledged as a limitation, and bootstrap mediation (e.g., Hayes' PROCESS Model 4 with 5,000 resamples) together with CFA-based validity testing is recommended for confirmation. Because the constructs are substantially intercorrelated (r ranging from .69 to .93), the orthogonal Varimax rotation—which assumes uncorrelated factors—is suboptimal; an oblique rotation (Promax or Direct Oblimin) is more appropriate to the data and is recommended for re-analysis, although the broad two-factor structure is not expected to change materially.

Research Findings

Reliability, Validity, and Descriptive Statistics

The 85-item instrument demonstrated excellent reliability across all 15 section-level composites (Cronbach's $\alpha = .97$). EFA yielded a clean two-factor solution explaining 84.79% of total variance (KMO = .83; Bartlett's test $p < .001$): all eight Female Leadership sections loaded substantively on Component 1, while all four Organizational Climate and three Teacher Job Performance sections loaded on Component 2, confirming the expected theoretical structure. The Female Leadership composite mean was 3.62 (SD = 0.66); Inspirational and Motivational Leadership (Section A) was rated highest ($M = 3.79$), while Strategic Vision and Ethical Leadership (Section B; $M = 3.52$) was rated lowest. The Organizational Climate composite ($M = 3.69$, SD = 0.83) was the highest-rated construct; Teacher Job Performance ($M = 3.49$, SD = 0.89) was the lowest-rated, with Research Performance (Section N; $M = 3.31$) the lowest-rated dimension across the entire instrument. Descriptive statistics for all constructs and sub-dimensions are illustrated in Table 2. To limit detail in the main text, only the composite-level statistics are essential here.

Table 2 Descriptive Statistics for All Constructs and Dimensions (N = 145)

Construct/Dimension	n	M	SD	Notes
Female Leadership (composite)	145	3.62	0.66	Items 1–50; Sections A–H (50 items)
Sec. A: Inspirational & Motivational Leadership	145	3.79	0.96	Highest FL dimension; FL_EmoGrowth = 4.09
Sec. B: Strategic Vision & Ethical Leadership	145	3.52	0.83	Lowest FL dimension; FL_Fairness = 3.40
Sec. C: Communication & Collaborative Leadership	145	3.55	0.89	

Construct/Dimension	n	M	SD	Notes
Sec. D: Operational Effectiveness & Ethical Practice	145	3.72	0.95	2nd highest FL; FL ResolvePrb = 4.05
Sec. E: Systematic Management & Org. Development	145	3.60	0.97	
Sec. F: Leadership Style & Organizational Atmosphere	145	3.58	1.02	
Sec. G: Team Motivation, Vision & Org. Performance	145	3.63	0.97	Highest within-FL cross-climate correlations
Sec. H: Transformational & Standards-Based Leadership	145	3.57	0.91	FL_GoodExample = 3.34 (lowest item)
Organizational Climate (composite)	145	3.69	0.83	Items 51–70; Sections I–L (20 items); highest composite
Sec. I: Team Cohesion & Collaboration	145	3.78	0.86	Highest OC dimension
Sec. J: Organizational Communication	145	3.62	0.98	Highest cross-construct r with Teaching (r = .93)
Sec. K: Job Satisfaction & Work Atmosphere	145	3.62	0.94	r(J,K) = .96 — highest within-OC
Sec. L: Organizational Culture & Climate	145	3.73	0.79	2nd highest OC dimension
Teacher Job Performance (composite)	145	3.49	0.89	Items 71–85; Sections M–O (15 items); lowest composite
Sec. M: Teaching Performance	145	3.73	0.88	Highest TJP dimension
Sec. N: Research Performance	145	3.31	0.93	Lowest dimension across the entire instrument
Sec. O: Social Service Performance	145	3.45	1.01	

Note. Items rated 1–5 (1 = Strongly Disagree; 5 = Strongly Agree). Overall Cronbach's α = .97; KMO = .83. Sub-dimension means reported for each section composite. FL = Female Leadership; OC = Organizational Climate; TJP = Teacher Job Performance. Scale midpoint = 3.00.

Correlation Analysis

Table 3 displays the Pearson correlation matrix. All three bivariate correlations were positive, large, and significant at $p < .001$ (two-tailed). The OC–TJP correlation ($r = .93$) was the strongest, representing a very large effect and indicating an exceptionally powerful positive relationship between perceived organizational climate and teacher performance. The FL–OC correlation ($r = .74$) confirmed that more positive perceptions of female leadership are strongly associated with a better organizational climate. The FL–TJP correlation ($r = .69$) established a large bivariate relationship between female leadership and teacher performance, providing initial support for the mediation model.

Table 3 Pearson Correlation Matrix among Female Leadership, Organizational Climate, and Teacher Job Performance (N = 145)

Variable	1. FL	2. OC	3. TJP
1. Female Leadership (FL)	—		
2. Organizational Climate (OC)	.74**	—	
3. Teacher Job Performance (TJP)	.69**	.93**	—
M (SD)	3.62 (0.66)	3.69 (0.83)	3.49 (0.89)

Note. ** $p < .001$ (two-tailed). FL = Female Leadership; OC = Organizational Climate; TJP = Teacher Job Performance. All correlations represent large effects (Cohen, 1988, $r > .50$).

Multiple Regression and Mediation Analysis

Table 4 presents the regression and mediation results. In Model 1, Female Leadership alone was a significant and substantial predictor of Teacher Job Performance ($\beta = .69$, $p < .001$; $R^2 = .48$; $F(1, 143) = 131.47$, $p < .001$), indicating that variation in perceived female leadership accounts for nearly half the variance in teacher performance. In Model 2, Organizational Climate was entered alongside Female Leadership. Organizational Climate emerged as the overwhelmingly dominant predictor ($\beta = .86$, $p < .001$). At the same time, the Female Leadership coefficient fell sharply to .06 and became non-significant ($p = .37$). The combined model explained 86.6% of variance in Teacher Job Performance ($R^2 = .87$; Adjusted $R^2 = .86$; $F(2, 142) = 458.61$, $p < .001$).

The Baron and Kenny (1986) four-step mediation test confirmed full mediation. Step 1: Female Leadership significantly predicted Organizational Climate ($\beta = .74$, $p < .001$). Step 2: Female Leadership significantly predicted Teacher Job Performance ($\beta = .69$, $p < .001$). Step 3: With Organizational Climate controlled, it remained a large and highly significant predictor of Teacher Job Performance ($\beta = .86$, $p < .001$), while the Female Leadership direct coefficient fell to $\beta = .06$ ($p = .37$, non-significant) — a reduction of approximately 92%. This combination constitutes full mediation: Female Leadership influences Teacher Job Performance exclusively through the organizational climate it creates.

Three additional checks are reported. First, multicollinearity in Model 2 was examined: because the two predictors (female leadership and organizational climate) correlate at $r = .74$, the variance inflation factor (VIF) is 2.19 (tolerance = .46) for both predictors, well below the conventional threshold of 5, indicating that the estimates are not distorted by multicollinearity; the very high OC–TJP correlation reflects a predictor–outcome association rather than collinearity between the predictors. Second, the standardized indirect effect of female leadership on teacher job performance through organizational climate was $a \times b = .63$, accounting for approximately 92% of the total effect ($c = .69$), while the direct effect ($c' = .06$) was non-significant, consistent with full mediation; a bootstrap 95% confidence interval for this indirect effect (e.g., PROCESS Model 4 with 5,000 resamples) could not be computed from the present SPSS output and is recommended for confirmation. Third, formal normality tests (Kolmogorov–Smirnov/Shapiro–Wilk) and residual diagnostics (linearity,

homoscedasticity, and independence of residuals) were not reported in the original analysis; these are acknowledged as limitations and as priorities for re-analysis.

Table 4 Multiple Regression Analysis and Mediation Test: Predictors of Teacher Job Performance (N = 145)

Path/Predictor	Model 1 β	p	Model 2 β	p	Mediation Step
Female Leadership $\rightarrow$ TJP (direct c')	.69	< .001	.06	.37 n.s.	Steps 2 & 3 direct path
Organizational Climate $\rightarrow$ TJP (path b)	—	—	.86	< .001	Step 3 mediator
Female Leadership $\rightarrow$ OC (path a)	.74	< .001	—	—	Step 1
R ²	.48		.87		$\Delta R^2 = .39$
Adjusted R ²	.48		.86		
VIF / Tolerance (Model 2)	—		2.19 / .46		
F	131.47***		458.61***		df(2, 142) for Model 2
Mediation verdict			Full mediation confirmed		

Note. Dependent variable = Teacher Job Performance composite. Model 1: FL only. Model 2: FL and OC simultaneously. Baron & Kenny (1986) four-step procedure applied. *** $p < .001$; n.s. = not significant. Full mediation confirmed: FL indirect effect on TJP operates entirely through OC (path a $\times$ path b). VIF = 2.19 and tolerance = .46 for both Model 2 predictors, well below the threshold of 5, indicating that multicollinearity does not distort the estimates.

Discussion

Full Mediation: Interpretation and Mechanism

The central finding is that organizational climate fully mediates the relationship between female leadership and teacher job performance: female leadership significantly predicts climate (path a, $\beta = .74$), climate strongly predicts performance (path b, $\beta = .86$), and the direct female leadership–performance path becomes non-significant once climate is controlled ($c' = .06$, $p = .37$), with the indirect path carrying approximately 92% of the total effect ($c = .69$). Full rather than partial mediation indicates that female leadership at BIPT influences teacher performance almost entirely by shaping the working climate, leaving no meaningful residual pathway that bypasses it. The combined model accounts for 86.6% of the variance in teacher performance, among the highest reported explanatory levels in the higher-education faculty-performance literature. However, this magnitude must be read against the cautions regarding common-method and discriminant validity discussed below.

The mechanism is interpretable through Leader–Member Exchange (LMX) theory (Graen & Uhl-Bien, 1995) female leaders’ relational investments—building interpersonal trust, mentoring junior staff, facilitating communication, and recognizing contributions—generate high-quality dyadic exchanges with individual faculty members, and the departmental aggregation of these exchanges constitutes the positive organizational climate that proximally drives performance. In this reading, climate is the meso-level expression of micro-level leader–member exchanges, which explains why controlling for climate statistically accounts for almost the entire leadership effect.

Comparison with Prior Research

These results are consistent with and extend the leadership–climate–performance chain, established largely in Western and corporate settings (Litwin & Stringer, 1968; Kopelman et al., 1990; Schneider et al., 2013), in which climate serves as the proximate channel for leadership effects. The proportion of the total effect transmitted indirectly (approximately 92%) and the dominance of climate as a predictor place the present mediation at the strong end of this literature. Precise effect-size benchmarking against prior Chinese and East-Asian studies is, however, constrained because comparable studies rarely report standardized indirect effects for this specific female-leadership–climate–performance configuration; the database search reported earlier (Web of Science, Scopus, CNKI) returned no directly comparable estimate. Cross-culturally, the finding that the chain holds in a Chinese applied university suggests the mechanism is not unique to Western contexts; whether cultural context moderates its magnitude—through collectivist norms that heighten the salience of relational climate, or through centralized resource governance that constrains leaders’ strategic latitude—cannot be settled with single-context data and warrants explicit cross-cultural comparison in future work.

Noteworthy Secondary Findings

Three secondary findings warrant comment. First, the exploratory factor analysis produced a two-factor structure in which organizational climate and teacher job performance loaded together and apart from female leadership. While consistent with the strong observed OC–TJP association, this also signals a concern about discriminant validity: respondents may not sharply distinguish the two constructs, and because all measures were self-reported by the same teachers at a single time point, common-method variance may inflate the OC–TJP relationship. The present design did not include a Harman single-factor test, a common latent factor, or a confirmatory factor analysis comparing one-, two-, and three-factor solutions; these are needed to establish that climate and performance are empirically distinct, and until they are reported, the full-mediation estimate should be interpreted as provisional. Second, the path coefficients are asymmetric: climate predicts performance more strongly ($b = .86$) than female leadership predicts climate ($a = .74$), implying that climate is the more proximate and powerful lever. Third, at the item level, the lowest-rated leadership indicator concerned setting a personal example (FL_GoodExample, $M = 3.34$), consistent with the persistent “think manager–think male” gender schema (Heilman, 2001; Schein et al., 1996), which can depress recognition of female leaders on agentic, exemplar dimensions even where their relational behaviors are valued.

Theoretical Contributions

Theoretically, the study makes three contributions. It confirms the leadership–climate–performance chain in a previously untested Chinese applied-university setting, supporting the chain’s transferability beyond Western and comprehensive-university contexts. It extends LMX theory upward from the dyadic to the meso level by showing that aggregating leader–member exchanges into a climate is the operative mechanism linking female leadership to collective teacher performance. Moreover, it questions the assumption of a meaningful direct leadership-to-performance effect: where climate is well measured, an apparent direct effect of leadership may be largely an unmodelled indirect effect—a caution relevant to studies that test leadership–performance links without an explicit climate mediator.

Strategic Vision and the Research-Performance Gap in the Chinese Context

A particularly consequential pattern is the convergence of the lowest-rated leadership dimension—strategic vision and ethical leadership ($M = 3.52$)—with the lowest-rated performance dimension, research ($M = 3.31$). In the Chinese higher-education system, this link is institutionally produced rather than incidental. Faculty research is governed by quantified, publication-weighted evaluation regimes tied to the Double First-Class agenda, in which departmental research quotas, promotion thresholds, and competitive funding are largely allocated on the basis of measurable research output. Within this regime, a leader’s strategic vision is the very capacity that determines whether scarce research resources—protected time, seed funding, grant sponsorship, and high-value publication targets—are anticipated, secured, and distributed transparently.

Where female leaders are perceived as weaker on strategic vision and fairness, the climate dimensions of communication transparency and evaluation equity through which leadership reaches performance are correspondingly weaker, and the practical consequence is felt most acutely in research, the domain most dependent on forward-looking resource planning and on credibility in competitive, quota-based allocation. From a job demands–resources perspective (Bakker & Demerouti, 2007), opaque benchmarks and inequitable resource access act as job demands that suppress discretionary research effort, whereas clear strategic communication and transparent allocation act as job resources that enable it. Teaching, by contrast, is comparatively buffered: it depends less on competitive external resources and more on the relational climate, which is rated relatively strongly, consistent with teaching being the highest-scoring performance domain ($M = 3.73$). The research-performance gap, therefore, reflects a structural interaction between leaders’ strategic latitude and the resource-allocation system, not merely an individual skill deficit.

Practical Implications

Practically, three priorities follow, each conditioned on the validity cautions above. Because climate is the proximate driver, institutional investment is best directed first at the climate dimensions most associated with performance—communication quality and job satisfaction—rather than at leadership training in isolation. Because the weakest leadership dimension (strategic vision and fairness) co-occurs with the weakest performance dimension (research), developing female leaders’ strategic communication and transparent, equitable resource allocation is likely to produce climate gains that translate into research engagement.

Moreover, because climate improvement alone cannot provide the missing structural resources, the research-performance gap also requires protected research time, seed funding, and structured mentoring. These implications are elaborated, with implementation mechanisms, responsible parties, and success indicators, in the Recommendations section.

Conclusions

This study demonstrated that organizational climate fully mediates the relationship between female leadership and teacher job performance at a Chinese applied university. Female leadership influences performance almost entirely indirectly by shaping the workplace environment; the direct path becomes non-significant once climate is controlled.

Theoretical Contributions: The findings validate the leadership–climate–performance chain (Litwin & Stringer, 1968; Kopelman et al., 1990) in a non-Western, technological higher-education setting. It highlights a meso-level mechanism where individual leader–member exchanges aggregate into a collective departmental climate.

Practical Contributions: The study identifies organizational climate—specifically communication and job satisfaction—as a high-leverage driver of teacher performance, emphasizing that joint leadership and structural interventions are required to close institutional performance gaps.

Limitations: These conclusions are bounded by a cross-sectional, single-source, single-institution design, alongside discriminant validity and common-method bias risks indicated by a two-factor structure and high climate–performance correlation.

Suggestions

Based on the empirical findings, recommendations are divided into practical institutional policies and future research directions.

Practical Recommendations

While climate drives performance, BIPT’s primary institutional weakness is research performance ($M = 3.31$), not teaching ($M = 3.73$). Interventions are prioritized from foundational enablers to this core outcome:

1. Female Leadership Development: Programs must target critical competencies: strategic vision articulation, communication transparency, and equitable performance evaluation design.

Mechanism: Structured tracks (2–3 workshops/semester + mentoring).

Responsible Parties: Office of Academic Affairs, Human Resources, and School Deans.

Success Indicators: Pre/post-program leadership scores, improved communication/fairness climate metrics, and female leader promotion rates.

2. Organizational Climate Improvement: Interventions should leverage Organizational Communication (Section J; $M = 3.62$) and Job Satisfaction/Work Atmosphere (Section K; $M = 3.62$), which highly correlate with Teaching Performance ($r = .93$ and $r = .91$, respectively).

Mechanism: Regular department-level climate pulse surveys and transparent communication routines (e.g., scheduled meetings, feedback channels).

Responsible Parties: Department Heads with HR support.

Success Indicators: Measurable gains on J and K sub-scales and corresponding teaching-performance improvements.

3. Research Performance and Structural Investment: Addressing the research gap ($M = 3.31$) requires structural resources that climate improvements alone cannot substitute. Female leaders should deploy their strategic vision here to eliminate barriers to faculty research.

Mechanism: Ring-fenced research time, departmental seed grants with transparent criteria, and structured publication mentoring.

Responsible Parties: Research Office and School Deans.

Success Indicators: Increased research outputs, higher grant-acquisition rates, and reduction of the research-performance gap over successive review cycles.

Limitations and Future Research Directions

1. Methodology & Design: The cross-sectional design prevents causal inference; longitudinal or experimental designs are required.

2. Common-Method Variance (CMV): Relying on self-reports introduces CMV risks (Podsakoff et al., 2003). Future studies should apply a Harman single-factor test or common-latent-factor model and triangulate with objective data.

3. Construct Validity: The two-factor EFA model where climate and performance items cross-load raises discriminant validity concerns. Future research must utilize Confirmatory Factor Analysis (CFA) to compare 1-, 2-, and 3-factor models, reporting Average Variance Extracted (AVE) and Composite Reliability (CR).

4. Statistical Robustness: Mediation should be re-estimated using bootstrapping (e.g., PROCESS Model 4, 5,000 resamples), reporting the indirect effect with 95% confidence intervals, alongside normality tests, residual diagnostics, and a Monte Carlo power analysis.

5. Generalizability & Scope: The single-institution setting and item-to-subject ratio limit generalizability; replication across diverse Chinese universities with larger samples for item-level factor analysis is recommended. Incorporating female leaders' self-perspectives through multi-source designs would also enhance comprehensiveness.

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