



Multidimensional 21st-Century Leadership Competencies and Teachers' Turnover Intention: Examining the Moderating Effect of Job Satisfaction

Dwiptendra Bandyopadhyay^{1*} and Juan Rodrigo B. Del Villar²

¹Faculty of Education, St Teresa International University, Thailand

²Faculty of Business Administration, St Teresa International University, Thailand

¹Corresponding author e-mail: dwiptendra@gmail.com, ORCID ID: <https://orcid.org/0000-0003-2820-9423>

²Email: janjan.jrdv@gmail.com, ORCID ID: <https://orcid.org/0009-0006-6315-5044>

Received 24/02/2026

Revised 04/03/2026

Accepted 26/03/2026

Abstract

Background and Aims: This study investigated the direct effects of multidimensional 21st-century leadership competencies and the moderating influence of job satisfaction on teachers' turnover intention. Grounded in Social Exchange Theory and Conservation of Resources Theory, the study employed a cross-sectional, correlational, non-experimental quantitative design.

Methodology: Data were collected from 300 teachers using validated instruments that measured four leadership dimensions (critical thinking and problem-solving, communication and collaboration, creativity and innovation, and digital literacy), job satisfaction, and turnover intention. Hierarchical multiple regression analysis was conducted to test direct and interaction effects.

Results: Results indicated that all four leadership competencies were significant negative predictors of turnover intention, collectively explaining 44% of the variance when entered into the model ($\Delta R^2 = .39$, $p < .001$). The inclusion of job satisfaction significantly increased explained variance to 66% ($\Delta R^2 = .22$, $p < .001$), with job satisfaction emerging as the strongest predictor ($\beta = -.47$, $p < .001$). The final moderation model accounted for 69% of the variance in turnover intention ($R^2 = .69$).

Conclusion: Interaction effects revealed that job satisfaction significantly strengthened the negative relationships between (a) critical thinking and problem solving and turnover intention ($\beta = -.12$, $p = .015$) and (b) creativity and innovation and turnover intention ($\beta = -.14$, $p = .004$). The findings suggest that leadership competencies function as organizational resources that reduce turnover intention, particularly when embedded in highly satisfying work environments. Leadership development initiatives are likely to yield stronger retention outcomes when combined with systemic efforts to enhance teachers' job satisfaction.

Keywords: 21st-century; Leadership Competencies; Turnover Intention; Job Satisfaction; Moderation





Introduction

Teacher turnover remains a persistent global challenge that disrupts instructional continuity, institutional stability, and student learning outcomes. Recent international reports indicate that teacher attrition has intensified in the post-pandemic period, particularly in developing and transitional education systems, where high stress levels, heavy workloads, and poor work-life balance have accelerated exits from the profession (Cuervo & Vera-Toscano, 2025). Elevated turnover rates not only impose substantial financial costs on schools but also undermine long-term reform and school improvement initiatives (Sorensen & Ladd, 2020). Understanding the mechanisms that reduce teachers' turnover intention has therefore become a critical priority in educational research.

From a theoretical standpoint, teacher retention can be interpreted through Social Exchange Theory (SET), which posits that employees reciprocate favorable organizational treatment with positive attitudes and sustained membership (Rajâa & Mekkaoui, 2025). Within school contexts, leadership behaviors signal institutional support, fairness, and investment in teachers' professional development. In Xu and Pang's (2024) study, when leadership is perceived as competent, empowering, and supportive, teachers are more likely to develop stronger organizational attachment and lower intentions to leave. Contemporary educational leadership, however, extends beyond traditional administrative or style-based frameworks. Modern school environments require multidimensional 21st-century competencies, including critical thinking and problem solving, communication and collaboration, creativity and innovation, and digital literacy. These competencies align with the Job Demands-Resources (JD-R) model, which asserts that organizational resources buffer job demands and enhance motivation. Leadership competencies can function as contextual resources that reduce uncertainty, clarify expectations, and foster psychological empowerment, factors consistently associated with lower turnover intention (Khan et al., 2024; Tummers & Bakker, 2021).

Although empirical research consistently shows that supportive leadership is negatively associated with turnover intention, much of the existing literature relies on unidimensional or style-based leadership models, which may not fully capture the multidimensional competencies required in digitally evolving and innovation-driven school systems (Antonopoulou et al., 2025; Hamzah et al., 2025). Furthermore, while prior studies frequently treat job satisfaction as a mediator between leadership and turnover intention (Berber et al., 2022), fewer studies have examined its potential moderating role. This distinction is theoretically significant because the Job Demands-Resources (JD-R) framework posits that workplace attitudes, such as job satisfaction, influence how employees interpret and respond to organizational experiences. In high-satisfaction contexts, leadership behaviors are more likely to be perceived positively, thereby strengthening





their retention effects; conversely, in low-satisfaction environments, even competent leadership may exert a weaker influence on withdrawal cognitions. From a JD-R perspective, job satisfaction reflects an affective evaluation of resource adequacy, meaning that when satisfaction is high, leadership resources may function synergistically to intensify their protective role against turnover intention (Putri & Renwarin, 2023). However, empirical evidence examining this conditional (moderating) mechanism remains limited, particularly within Southeast Asian educational contexts.

To address these gaps, the present study investigates the relationship between multidimensional 21st-century leadership competencies and teachers' turnover intention, with job satisfaction examined as a moderating variable. Leadership is operationalized across four dimensions: critical thinking and problem solving, communication and collaboration, creativity and innovation, and digital literacy. Grounded in Social Exchange Theory and Conservation of Resources Theory, this study conceptualizes leadership competencies as relational and organizational resources that directly reduce turnover intention through reciprocal exchange processes. It further proposes that job satisfaction functions as a contextual resource condition that shapes the strength of these relationships.

By testing both direct and interaction effects, this study advances leadership-retention scholarship beyond traditional style-based approaches. It offers a more nuanced explanation of how competency-based leadership operates within resource-sensitive work environments. In doing so, it contributes to theory by clarifying the boundary conditions under which leadership most effectively reduces teachers' turnover intention and informs leadership development strategies aimed at strengthening retention in contemporary educational systems.

Theoretical and Conceptual Framework

Theoretical Framework

This study is grounded in Social Exchange Theory (Blau, 1964) and Conservation of Resources (COR) Theory (Hobfoll, 1989), which together explain the direct and conditional relationships between 21st-century leadership competencies and teachers' turnover intention. Rather than serving as general background perspectives, these theories explicitly guide the development of the proposed structural relationships among leadership competencies, job satisfaction, and turnover intention.

Social Exchange Theory (SET) posits that reciprocal exchanges of valued resources govern workplace relationships. When teachers perceive leadership behaviors as supportive, empowering, collaborative, and professionally enriching, they are more likely to reciprocate with positive work attitudes and reduced withdrawal cognitions. Within this framework, 21st-century leadership





competencies, such as critical thinking, collaboration, innovation, and digital adaptability, represent relational resources that foster trust and reciprocal commitment. Guided by SET, leadership competencies are conceptualized as exchange-based relational investments that generate retention-oriented responses. Thus, the negative relationship between leadership competencies and turnover intention is theoretically derived from the reciprocity principle. When administrators provide valued professional resources, teachers respond with reduced intentions to withdraw from the organization.

While SET explains the direct relational pathway, Conservation of Resources (COR) Theory provides a complementary explanation for the moderating role of job satisfaction. COR Theory asserts that individuals strive to obtain, retain, and protect valued resources, and that stress arises when these resources are threatened or depleted. In school environments, leadership behaviors function as key job resources, including emotional support, autonomy, professional growth opportunities, and recognition. Job satisfaction reflects teachers' evaluation of the adequacy and sustainability of these resources.

Drawing from COR Theory, job satisfaction is conceptualized as an accumulated reservoir of psychological resources that conditions how leadership resources translate into retention outcomes. Individuals with greater resource reserves are better positioned to capitalize on additional resources, creating resource-gain spirals. Accordingly, when job satisfaction is high, leadership competencies exert a more substantial protective effect against turnover intention. When satisfaction is low, resource depletion may weaken this relationship. This reasoning provides theoretical justification for modeling job satisfaction as a moderator rather than a mediator, as it shapes the strength of the leadership-turnover link rather than transmitting its effect.

Together, SET and COR provide an integrated explanation of teacher retention: leadership operates as a relational resource that directly reduces withdrawal cognitions (SET), and its effectiveness varies according to teachers' psychological resource reserves (COR). By integrating relational exchange logic with resource-based contingency reasoning, the framework advances a boundary-condition perspective of leadership effectiveness rather than a simple direct-effects model.

Conceptual Framework

Based on the preceding theoretical foundations, the conceptual framework proposes that multidimensional 21st-century leadership competencies directly reduce teachers' turnover intention and that this relationship is conditionally influenced by job satisfaction.

In this model, leadership competencies encompassing critical thinking and problem-solving, communication and collaboration, creativity and innovation, and digital literacy function as the



independent variable. Teachers' turnover intention serves as the dependent variable, while job satisfaction moderates the strength of the leadership-turnover relationship.

This structure reflects a theory-derived boundary-condition model in which leadership competencies mitigate turnover intention through reciprocal relational mechanisms, and the magnitude of this effect depends on teachers' resource reserves. By integrating Social Exchange Theory and Conservation of Resources Theory, the framework offers a structured and conceptually consistent explanation of how competency-based leadership contributes to teacher retention in contemporary educational settings.

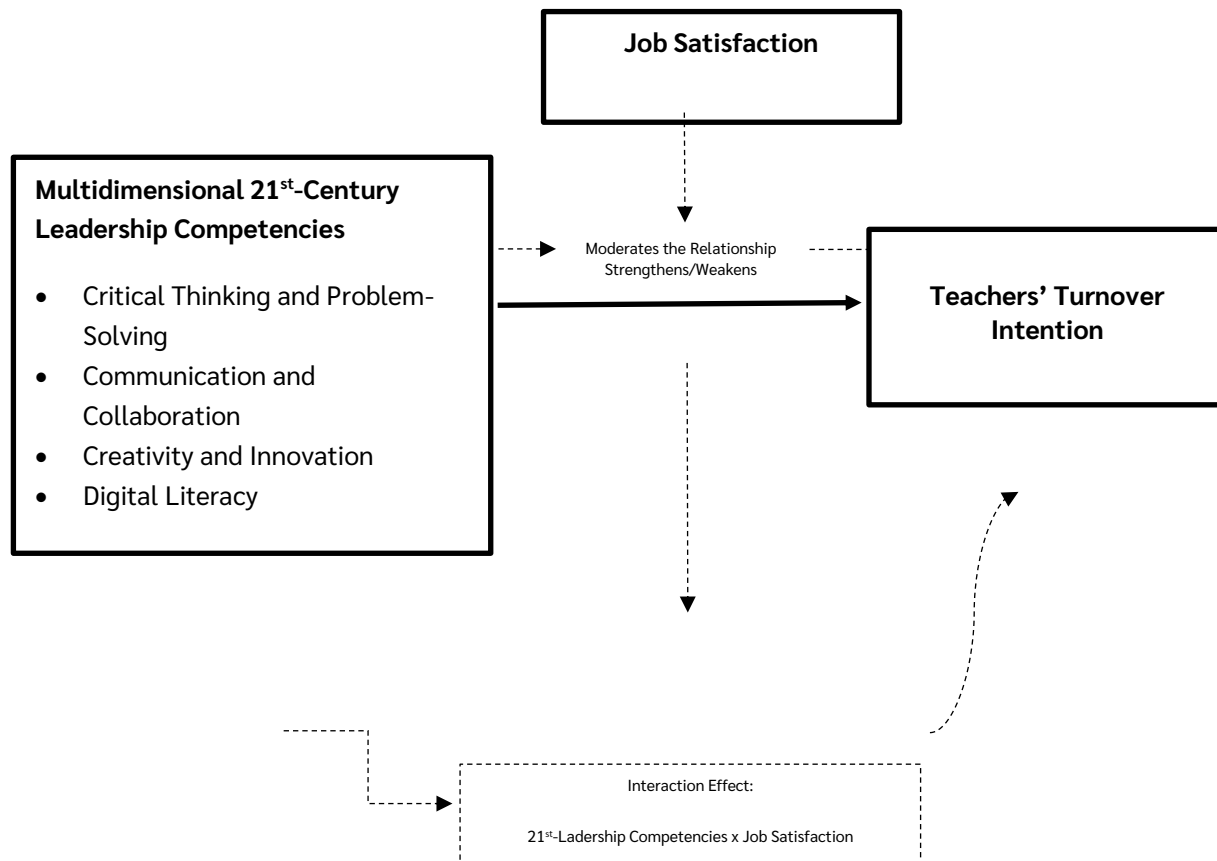


Figure 1 Conceptual framework illustrating the moderating effect of job satisfaction on the relationship between multidimensional 21st-century leadership competencies and teachers' turnover intention.

Research Questions

1. Is there a significant difference in job satisfaction and teachers' turnover intention across demographic groups?



2. Do the dimensions of 21st-century leadership competencies and job satisfaction significantly predict teachers' turnover intention?

3. Does job satisfaction significantly moderate the relationship between the dimensions of 21st-century leadership competencies and teachers' turnover intention?

Hypotheses

H₁: There is a significant difference in job satisfaction and teachers' turnover intention across their demographic groups.

H₂: The dimensions of 21st-century leadership competencies of school administrators and job satisfaction significantly predict teachers' turnover intention.

H₃: Job satisfaction significantly moderates the relationship between the dimensions of 21st-century leadership competencies and teachers' turnover intention.

Methodology

This study employed a cross-sectional, correlational, non-experimental quantitative design to examine the direct effect of 21st-century leadership competencies on teachers' turnover intention and the moderating role of job satisfaction in this relationship, without manipulating study variables (Johnson & Christensen, 2024).

The sample consisted of 300 teachers selected through stratified convenience sampling to ensure proportional representation across relevant subgroups while accommodating institutional access constraints typical in educational research (Creswell & Creswell, 2023). An a priori power analysis based on Cohen's (1988) guidelines for multiple regression models with interaction terms indicated that approximately 120 participants were required to detect a medium effect size ($f^2 = .15$) at $\alpha = .05$ with statistical power of .95, assuming three predictors in the moderation model (leadership competencies, job satisfaction, and their interaction). The final sample size substantially exceeded this requirement, yielding excellent statistical power (power > .99) and enhancing the stability and precision of parameter estimates, particularly for detecting interaction effects.

Leadership competencies were measured using the OECD Future of Education and Skills 2030 framework (OECD, 2020), which demonstrated strong internal consistency ($\alpha \geq .87$), confirmatory factor analysis (CFA) supported construct validity, with acceptable model fit indices (CFI = .97, TLI = .93, RMSEA = .05). Turnover intention was assessed using the Turnover Intention Scale (Ike et al., 2023) which demonstrated satisfactory reliability ($\alpha = .86$) and acceptable model fit (CFI = .96, TLI = .95, RMSEA = .05). Job satisfaction was measured using the Teacher Job





Satisfaction Survey Questionnaire (TJSQ) modified by Krimjai et al. (2024), showing strong internal consistency ($\alpha = .89$) and good model fit (CFI = .97, TLI = .96, RMSEA = .04). In addition to reliability and overall model fit, discriminant validity was evaluated to ensure empirical distinctiveness among the constructs. The Fornell-Larcker criterion was applied by comparing the square root of the Average Variance Extracted (AVE) for each construct with its inter-construct correlations. The square roots of the AVE values exceeded the corresponding inter-construct correlations, including the correlation between Job Satisfaction and Turnover Intention ($r = -.65$), indicating adequate discriminant validity. Furthermore, the Heterotrait-Monotrait (HTMT) ratios among constructs were below the conservative threshold of .85, providing additional support for discriminant validity. These findings confirm that, although strongly related, job satisfaction and turnover intention represent conceptually and empirically distinct constructs rather than overlapping measures.

Although the four leadership dimensions were moderately correlated, they were retained as separate predictors due to their theoretical distinctiveness and empirical support for a multidimensional structure. Modeling competencies individually allows for the examination of differential predictive and moderating effects that would be obscured when aggregated into a single composite index. Multicollinearity diagnostics indicated that variance inflation factors (VIFs) remained below the conservative threshold of 5, suggesting that collinearity did not materially bias parameter estimates.

Data were collected through anonymous, voluntary self-administered surveys. Participants were assured of confidentiality and informed that there were no right or wrong answers to reduce evaluation apprehension and social desirability bias. Ethical protocols were followed in accordance with the World Medical Association (2013) and the American Psychological Association (2020). Informed consent was obtained before participation. Statistical analyses were conducted using SPSS and AMOS. Pearson correlation analyses were performed to examine bivariate relationships among variables. Multiple regression analyses were conducted to estimate explained variance (R^2). Moderation analysis was performed using Hayes' PROCESS Macro (Model 1) with 5,000 bootstrap samples and bias-corrected confidence intervals. Continuous variables were mean-centered before computing interaction terms to reduce multicollinearity. Variance inflation factors (VIF) were examined and remained below the recommended threshold of 5, indicating no multicollinearity concerns.

Given that all variables were collected through self-report measures at a single time point, both procedural and statistical remedies were implemented to address potential common method variance (Podsakoff et al., 2012). Procedurally, anonymity and confidentiality were ensured, participation was voluntary, and respondents were informed that responses would be used solely for research purposes. Statistically, Harman's single-factor test indicated that no single



factor accounted for the majority of covariance among measures. To provide a more rigorous assessment, a Common Latent Factor (CLF) was incorporated into the CFA model in AMOS. The CLF was specified to load on all observed indicators across the three instruments to capture shared method variance. Model comparisons between the original measurement model and the CLF model revealed negligible changes in fit indices ($\Delta CFI \leq .01$; $\Delta RMSEA \leq .01$), and standardized factor loadings remained stable (all differences $< .20$). These findings suggest that common method bias does not materially affect the measurement model or inflate the structural relationships observed. Nevertheless, as the design was cross-sectional and relied on single-source data, causal inferences cannot be definitively established, and the possibility of residual method bias cannot be entirely excluded.

Results

Table 1 Differences in Job Satisfaction and Turnover Intention when grouped according to Demographic Profile

Demographic Variable	Group	n	Job Satisfaction M (SD)	Test Statistic	p	Effect Size / Post Hoc	Turnover Intention M (SD)	Test Statistic	p	Effect Size / Post Hoc	
Age	21–30	130	3.46 (0.55)	F(2, 297) = 6.48	.002	$\eta^2 = .04$; Tukey: 41+ > 21–30 (MD = 0.36, 95% CI [0.13, 0.59])	3.33 (0.60)	F(2, 297) = 5.72	.004	$\eta^2 = .04$; Tukey: 21–30 > 41+ (MD = 0.31, 95% CI [0.09, 0.53])	
	31–40	100	3.64 (0.60)								3.14 (0.63)
	41+	70	3.82 (0.63)								3.02 (0.65)

					$\eta^2 =$		$\eta^2 =$	
					.06;		.05;	
					Tukey:		Tukey:	
					11+ >		0-5 >	
Experience	0-5	120	3.42 (0.54)	F(2, 297) = 9.15	<.001	0-5 (MD = 0.41, 95% CI [0.19, 0.63])	11+ (MD = 0.37, 95% CI [0.16, 0.58])	
	6-10	100	3.61 (0.59)			3.38 (0.59)	8.33	
	11+	80	3.83 (0.64)			3.18 (0.61)	3.01 (0.66)	
Gender	Male	130	3.60 (0.59)	t(298) = 1.02	.309	d = 0.12	t(298) = -0.81	d = .419
	Female	170	3.66 (0.58)			3.16 (0.62)	3.11 (0.61)	
Nationality	Thai	210	3.69 (0.58)	t(298) = 2.18	.030	d = 0.25	t(298) = -2.10	d = .037
	Foreign	90	3.54 (0.60)			3.09 (0.61)	3.24 (0.63)	

Table 1 presents differences in job satisfaction and turnover intention by demographic profile. A one-way ANOVA revealed significant differences in job satisfaction across age groups, $F(2, 297) = 6.48, p = .002, \eta^2 = .04$. Post hoc comparisons using Tukey’s HSD indicated that teachers aged 41 and above reported significantly higher job satisfaction than those aged 21-30 (MD = 0.36, 95% CI [0.13, 0.59]). Similarly, significant differences were found in turnover intention across age groups, $F(2, 297) = 5.72, p = .004, \eta^2 = .04$. Teachers aged 21–30 reported significantly higher turnover intention than those aged 41 and above (MD = 0.31, 95% CI [0.09, 0.53]). Significant differences were also observed across years of experience. Teachers with 11 or more years of experience reported significantly higher job satisfaction than those with 0-5 years of experience, $F(2, 297) = 9.15, p < .001, \eta^2 = .06$. Conversely, teachers with 0-5 years of experience

demonstrated significantly higher turnover intention than those with 11 or more years, $F(2, 297) = 8.33, p < .001, \eta^2 = .05$.

Independent-samples t-tests indicated no significant differences in job satisfaction, $t(298) = 1.02, p = .309$, or turnover intention, $t(298) = -0.81, p = .419$, by gender. However, significant differences were observed based on nationality. Thai teachers reported significantly higher job satisfaction, $t(298) = 2.18, p = .030, d = .25$, and significantly lower turnover intention, $t(298) = -2.10, p = .037, d = .24$, compared to foreign teachers.

Table 2 Pearson Correlations Among Study Variables

Variables	Teachers' Turnover Intention
1. Critical Thinking & Problem Solving	-0.49***
2. Communication & Collaboration	-0.46***
3. Creativity & Innovation	-0.42***
4. Digital Literacy	-0.38***
5. Job Satisfaction	-0.65***

Note. $P < .05^*$, $p < .01^{**}$, $p < .001^{***}$

Table 2 presents the Pearson correlation analysis, which was conducted to examine the relationships among the dimensions of 21st-century leadership competencies, job satisfaction, and teachers' turnover intention. The results revealed that all four dimensions of 21st-century leadership competencies were significantly and negatively correlated with teachers' turnover intention. Specifically, Critical Thinking and Problem Solving ($r = -0.49, p < .001$), Communication and Collaboration ($r = -0.46, p < .001$), Creativity and Innovation ($r = -0.42, p < .001$), and Digital Literacy ($r = -0.38, p < .001$) were all associated with lower levels of turnover intention. These findings indicate that higher levels of leadership competencies among school administrators are associated with reduced intentions among teachers to leave their positions. Furthermore, job satisfaction showed a strong, significant negative relationship with turnover intention ($r = -0.65, p < .001$), suggesting that more satisfied teachers are substantially less likely to consider leaving. Overall, the results demonstrate that both the dimensions of 21st-century leadership competencies and job satisfaction are inversely related to teachers' turnover intention.

Table 3 on the next page presents the results of a hierarchical multiple regression analysis examining whether dimensions of Multidimensional 21st-Century Leadership Competencies and job satisfaction predict teachers' turnover intention while controlling for demographic variables (age, years of experience, gender, and nationality). In **Model 1**, six demographic control variables

were entered. The model was statistically significant, $F(6, 293) = 2.57, p < .05$, explaining 5% of the variance in turnover intention ($R^2 = .05$). However, none of the demographic variables remained statistically significant in the final model, suggesting that their predictive contribution was limited once substantive variables were included. It is important to note that although regression analysis estimates predictive associations, the cross-sectional design does not permit definitive causal conclusions regarding the direction of these relationships.

Table 3 Hierarchical Regression Analysis Examining the Moderating Role of Job Satisfaction in Predicting Teachers' Turnover Intention

Predictors	Model 1 β	Model 2 β	Model 3 β	Model 4 β	B	SE	t	p	VIF
Step 1: Control Variables									
Age (31–40)	-.04	-.03	-.02	-.02	-0.05	0.06	-0.83	.408	1.32
Age (41+)	-.06	-.05	-.04	-.04	-0.07	0.07	-1.02	.309	1.38
Experience (6–10 yrs)	-.07	-.05	-.03	-.03	-0.06	0.06	-1.05	.294	1.41
Experience (11+ yrs)	-.09	-.07	-.05	-.04	-0.07	0.06	-1.18	.239	1.44
Gender (Female)	-.03	-.02	-.01	-.01	-0.03	0.05	-0.61	.542	1.18
Nationality (Foreign)	.08	.06	.05	.04	0.09	0.05	1.89	.060	1.27
Step 2: 21st Century Leadership Competencies									
Critical Thinking & Problem Solving	—	-.21** *	-.18* *	-.17**	-0.20	0.07	-2.86	.004	2.85
Communication & Collaboration	—	-.19**	-.16* *	-.15*	-0.18	0.07	-2.57	.011	2.92
Creativity & Innovation	—	-.23** *	-.21* **	-.20** *	-0.23	0.07	-3.32	.001	3.10
Digital Literacy	—	-.15*	-.13*	-.12*	-0.14	0.06	-2.38	.018	2.34
Step 3: Job Satisfaction									
Job Satisfaction	—	—	-.49* **	-.47** *	-0.49	0.06	-8.17	< .001	3.25
Step 4: Interaction Terms									

Predictors	Model 1 β	Model 2 β	Model 3 β	Model 4 β	B	SE	t	p	VIF
Critical Thinking and Problem Solving × JS	—	—	—	-.12*	-0.08	0.03	-2.45	.015	3.88
Communication and Collaboration × JS	—	—	—	-.08	-0.05	0.03	-1.71	.089	3.75
Creativity and Innovation × JS	—	—	—	-.14**	-0.09	0.03	-2.92	.004	4.02
Digital Literacy × JS	—	—	—	-.06	-0.04	0.03	-1.36	.175	3.60
R ²	.05	.44	.66	.69					
ΔR^2	—	.39***	.22***	.03***					
F (df)	2.57* (6,293)	28.91* (10,289)	72.18 (11,288)	65.44* (15,284)					

Note: Model 1 included demographic control variables (age, years of experience, gender, and nationality; reference categories: 21–30 years, 0–5 years of experience, male, and Thai). Model 2 added the four dimensions of Multidimensional 21st-Century Leadership Competencies. Model 3 added job satisfaction. Model 4 added the interaction terms. Continuous predictors were mean-centered before computing interaction terms. JS = Job Satisfaction. $p < .05$. $p < .01$. $p < .001$.

In **Model 2**, the four leadership dimensions were added. This resulted in a substantial and statistically significant increase in explained variance ($\Delta R^2 = .39$, $p < .001$), with the model accounting for 44% of the variance in turnover intention, $F(10, 289) = 28.91$, $p < .001$. All four dimensions - Critical Thinking and Problem Solving ($\beta = -.21$, $p < .001$), Communication and Collaboration ($\beta = -.19$, $p < .01$), Creativity and Innovation ($\beta = -.23$, $p < .001$), and Digital Literacy ($\beta = -.15$, $p < .05$), were significant negative predictors, indicating that higher leadership competencies were associated with lower turnover intention.

In **Model 3**, job satisfaction was entered into the regression equation. This addition produced a further significant increase in explained variance ($\Delta R^2 = .22, p < .001$), with the model explaining 66% of the variance in turnover intention, $F(11, 288) = 72.18, p < .001$. Job satisfaction emerged as the strongest predictor ($\beta = -.49, p < .001$), while the leadership dimensions remained significant, indicating independent effects beyond job satisfaction. In **Model 4**, interaction terms between each leadership dimension and job satisfaction were included to test moderation effects. The inclusion of the interaction terms led to a statistically significant increase in explained variance ($\Delta R^2 = .03, p < .001$), with the final model explaining 69% of the variance in turnover intention, $F(15, 284) = 65.44, p < .001$. Although the incremental variance explained by the interaction effects was modest in magnitude, it is theoretically meaningful, as it indicates that the relationship between specific leadership competencies and turnover intention varies across teachers' levels of job satisfaction. Two interaction effects were statistically significant: Critical Thinking and Problem Solving \times Job Satisfaction ($\beta = -.12, p = .015$) and Creativity and Innovation \times Job Satisfaction ($\beta = -.14, p = .004$). These findings indicate that job satisfaction moderated the relationships between these leadership dimensions and turnover intention. The interactions involving Communication and Collaboration and Digital Literacy were not statistically significant.

Multicollinearity diagnostics indicated that VIF values ranged from 1.18 to 4.02, remaining below the conservative threshold of 5, suggesting that multicollinearity was not a concern. Overall, the findings demonstrate that leadership competencies and job satisfaction significantly predict teachers' turnover intention, with job satisfaction exerting the most substantial direct effect. Furthermore, job satisfaction strengthens the negative relationship between selected leadership competencies and turnover intention.

Discussions

Demographic Differences in Job Satisfaction and Turnover Intention

The present findings indicate that age, years of experience, and nationality were significantly associated with differences in job satisfaction and turnover intention, whereas gender was not. Although statistically significant, the effect sizes were small to moderate ($\eta^2 = .04-.06; d \approx .24-.25$), suggesting that demographic characteristics exert a modest but meaningful influence on teachers' work attitudes.

Specifically, older teachers (41+) reported significantly higher job satisfaction and lower turnover intention than younger teachers (21-30), a pattern consistent with post-2020 research showing that early-career teachers are more vulnerable to occupational stress, professional uncertainty, and attrition intentions, particularly during and after the COVID-19 pandemic (Amir et



al., 2025; Hulme & Wood, 2022). Greater job satisfaction among older teachers may reflect career stabilization, stronger professional identity, and accumulated coping resources, as longitudinal evidence suggests that experienced educators develop higher instructional efficacy and resilience that buffer against turnover intentions (Mahama et al., 2025). Similarly, teachers with 11 or more years of experience demonstrated higher job satisfaction and lower turnover intention than those with 0–5 years of experience, aligning with global reports indicating that attrition risk is highest in the first five years of teaching (Cells et al., 2022). Post-pandemic studies further highlight that novice teachers faced intensified workload demands, rapid digital transitions, and classroom management challenges that negatively affected job satisfaction and increased withdrawal cognitions (Abilash & Mahthi Hassan, 2025).

From a theoretical standpoint, these age- and experience-related differences may be interpreted through a resource-based lens consistent with Conservation of Resources (COR) Theory. Early-career teachers may possess fewer accumulated professional and psychological resources, rendering them more sensitive to workplace demands and leadership quality. In contrast, experienced teachers may have developed stronger resource reservoirs, including professional confidence, institutional familiarity, and coping mechanisms, which buffer against dissatisfaction and withdrawal intentions. This interpretation suggests that leadership competencies exert differential influence across career stages, potentially being more critical for early-career teachers who rely more heavily on supervisory support and developmental guidance.

Moreover, generational research provides further insight into these differences. Thanchonnang et al. (2023) found that younger employees prioritize work-life balance, recognition, and supportive leadership as central drivers of retention. Applying this perspective to the present findings, younger teachers may evaluate leadership effectiveness more critically based on perceived developmental opportunities, autonomy, and relational support. This generational sensitivity may explain why lower job satisfaction and higher turnover intention were observed among younger cohorts, underscoring the need for leadership approaches that are responsive to career-stage expectations.

In contrast, no significant gender differences were found, supporting recent meta-analytic evidence that gender differences in teacher satisfaction and attrition are generally minor and context-dependent (Gan et al., 2025), and reinforcing the view that structural and organizational conditions play a more decisive role than demographic identity alone.

Regarding nationality, Thai teachers reported higher job satisfaction and lower turnover intention than foreign teachers, although effect sizes were small, suggesting limited practical magnitude. This difference may reflect the challenges of contextual adaptation faced by expatriate educators, as recent research indicates that cross-cultural adjustment, language





barriers, contractual instability, and social integration significantly influence occupational satisfaction and retention intentions among foreign teachers (Schartner et al., 2022).

Beyond adaptation challenges, these findings may also be contextualized within diversity climate literature. Seriwatana (2021) demonstrated that perceptions of diversity climate and cultural inclusion significantly predict employee retention. In multicultural school environments, leadership competencies such as communication, collaboration, and digital adaptability may be interpreted differently across cultural groups depending on expectations of hierarchy, relational norms, and organizational fairness. Thus, nationality-based differences in satisfaction and turnover intention may reflect variations in how leadership behaviors are perceived and internalized within culturally diverse contexts.

Overall, while demographic factors were statistically associated with differences in job satisfaction and turnover intention, their explanatory power appears modest compared to that of the organizational and psychological predictors examined later in the study. Consistent with contemporary retention research, demographic characteristics may signal vulnerability among particular groups, particularly early-career and foreign teachers, but structural workplace factors, including leadership competencies and satisfaction-enhancing organizational practices, remain the more substantial determinants of turnover intention.

Correlation Analysis of Predictors of Teachers' Turnover Intention

The Pearson correlation analysis revealed statistically significant and negative associations between all dimensions of 21st-century leadership competencies, job satisfaction, and teachers' turnover intention. The effect sizes ranged from medium to large according to Cohen's (1988) benchmarks, indicating both substantive and statistical significance. Specifically, Critical Thinking and Problem Solving ($r = -.49$), Communication and Collaboration ($r = -.46$), Creativity and Innovation ($r = -.42$), and Digital Literacy ($r = -.38$) were moderately and negatively associated with turnover intention, while Job Satisfaction demonstrated a strong inverse relationship ($r = -.65$).

The relatively strong association between Critical Thinking and Problem Solving and turnover intention suggests that leaders' strategic decision-making and problem-resolution capacities are meaningfully related to retention-related attitudes in schools. Empirical studies indicate that leadership competence in navigating uncertainty is associated with lower teacher stress and burnout (Williams, 2025), which are established antecedents of turnover intention (Ladres & Garcia, 2025). In increasingly complex educational environments, cognitively competent leadership appears to be linked to reduced withdrawal cognitions.





Similarly, Communication and Collaboration demonstrated a robust negative association with turnover intention, consistent with contemporary applications of Leader–Member Exchange theory. Empirical studies since 2020 report that collaborative and communicative leadership practices are associated with stronger organizational commitment and lower turnover intentions (QiaLian et al., 2024). In distributed leadership contexts, interpersonal quality remains central to retention dynamics.

Creativity and Innovation were also meaningfully associated with lower turnover intention. Post-2020 educational reforms and digital transformation have heightened the relevance of adaptive, innovation-oriented leadership. Research suggests that innovative leadership is linked to greater teacher engagement and professional resilience, both of which are inversely associated with turnover intention (Phakamach et al., 2025). The medium-to-large correlation observed underscores the practical relevance of forward-thinking leadership behaviors in retention-related contexts.

Although slightly smaller in magnitude, Digital Literacy ($r = -.38$) remains practically significant. Studies conducted during and after the COVID-19 pandemic indicate that digitally competent leadership is associated with lower technostress and higher instructional confidence among teachers, which corresponds with reduced attrition intentions (Bartra-Rivero et al., 2024). Given ongoing digital integration in education, digital leadership competence appears increasingly relevant in understanding retention patterns.

Job Satisfaction emerged as the strongest correlate of turnover intention ($r = -.65$), reflecting a large effect size. This finding aligns with meta-analytic evidence indicating that job satisfaction is one of the most robust predictors of turnover intention in educational settings (Thompson, 2020). Contemporary turnover models consistently position satisfaction as a proximal correlate of withdrawal cognitions, particularly in high-demand post-pandemic environments.

It is important to emphasize that Pearson correlation coefficients reflect statistical associations and do not imply causal directionality. Accordingly, these findings should be interpreted as indicative of meaningful relationships rather than definitive evidence of cause-and-effect processes. None of the correlations exceeded $|.70|$, suggesting that multicollinearity is unlikely to threaten subsequent regression analyses. Overall, the pattern of medium-to-large effect sizes indicates that leadership competencies and job satisfaction are substantively meaningful correlates of teachers' turnover intention, reinforcing contemporary empirical evidence highlighting the strategic relevance of leadership quality and satisfaction-enhancing organizational practices in retention contexts.





Hierarchical Regression Analysis and the Moderating Role of Job Satisfaction in Predicting Teachers' Turnover Intention

The hierarchical regression analysis demonstrates that 21st-century leadership competencies and job satisfaction substantially predict teachers' turnover intention, with the final model explaining 69% of the variance ($R^2 = .69$), indicating strong explanatory power and model stability. After controlling for demographic variables, which were not significant in the final model, the inclusion of leadership competencies accounted for a substantial 39% increase in explained variance ($\Delta R^2 = .39$, $p < .001$). All four leadership dimensions - Creativity and Innovation ($\beta = -.20$), Critical Thinking and Problem Solving ($\beta = -.17$), Communication and Collaboration ($\beta = -.15$), and Digital Literacy ($\beta = -.12$) - emerged as significant negative predictors, confirming that higher levels of multidimensional leadership competence are associated with lower turnover intention. The addition of job satisfaction further increased the explained variance by 22% ($\Delta R^2 = .22$, $p < .001$) and emerged as the strongest predictor ($\beta = -.47$, $p < .001$), underscoring its central and more proximal role in turnover cognition. Consistent with recent empirical evidence (2020-2024), job satisfaction remains one of the most powerful determinants of teachers' intention to leave, while supportive and competence-based leadership practices significantly reduce turnover intention both directly and through motivational mechanisms (Kurniawati et al., 2022). The findings align with the Job Demands-Resources (JD-R) model and Social Exchange Theory, suggesting that leadership competencies function as job resources that enhance motivation and reduce withdrawal cognitions.

In contrast, job satisfaction represents a key affective mechanism driving retention decisions. Furthermore, moderation analysis revealed that job satisfaction not only directly predicted turnover intention but also significantly conditioned the relationship between leadership competencies and turnover intention. Specifically, the interaction effects indicated that the negative associations between Critical Thinking and Problem Solving ($\beta = -.12$, $p = .015$) and Creativity and Innovation ($\beta = -.14$, $p = .004$) with turnover intention were stronger at higher levels of job satisfaction. The inclusion of these interaction terms resulted in a statistically significant, though modest, increase in explained variance ($\Delta R^2 = .03$, $p < .001$), suggesting that job satisfaction functions as a meaningful boundary condition in understanding how leadership competencies relate to teachers' turnover intention. This indicates that the negative relationship between these strategic and innovative leadership competencies and turnover intention becomes stronger when teachers experience higher satisfaction. In contrast, the interaction effects for Communication and Collaboration and Digital Literacy were not significant, suggesting primarily direct effects. Although modest in size, these interaction effects are consistent with contemporary





research highlighting satisfaction as a contextual amplifier of leadership influence (Dubey et al., 2023). Multicollinearity diagnostics ($VIF < 5$) confirm the stability of the estimates. Overall, the findings demonstrate that while 21st-century leadership competencies significantly reduce turnover intention, job satisfaction exerts the most substantial and practically meaningful influence and further enhances the retention effects of specific leadership competencies, emphasizing the importance of integrated retention strategies that combine leadership development with deliberate efforts to strengthen teachers' job satisfaction and workplace well-being.

Beyond the educational context, the present findings contribute to broader organizational behavior literature by positioning 21st-century leadership competencies within contemporary leadership theory. The relational dimensions of communication and collaboration resonate with servant leadership principles, which emphasize empowerment, ethical influence, and employee-centered engagement (Wei & Bunchapattanasakda, 2024). However, the inclusion of strategic competencies such as critical thinking, innovation, and digital literacy extends beyond traditional servant leadership by incorporating adaptive and technologically responsive capabilities required in dynamic institutional environments. In this respect, the multidimensional competency framework reflects an evolution from style-based leadership models toward a capability-oriented paradigm that integrates relational, cognitive, and digital dimensions.

Moreover, cross-sector research underscores that leadership competencies translate into broader organizational outcomes, including performance and sustainability. For instance, Olubiyi (2024) demonstrated that leadership competencies significantly influence organizational profitability in corporate contexts. Although the present study examines turnover intention rather than financial outcomes, the underlying mechanism is conceptually parallel: leadership competencies shape employee attitudes, which in turn influence organizational stability and performance capacity. Within public sector models, Mitprasat et al. (2024) proposed an integrated framework linking leadership, job satisfaction, organizational culture, and organizational performance. The current findings complement this perspective by demonstrating that leadership competencies not only relate directly to satisfaction but also conditionally influence retention-related attitudes. Thus, the present study situates competency-based leadership within a broader public-sector performance discourse, highlighting its relevance not only for employee well-being but also for institutional sustainability in educational settings.

Theoretical and Practical Implications

Theoretical Implications





This study conceptualizes multidimensional 21st-century leadership competencies as organizational resources that directly and conditionally reduce teachers' turnover intention. Consistent with the Job Demands-Resources (JD-R) model, all four leadership dimensions demonstrated significant negative direct effects even after controlling for demographics and job satisfaction, indicating independent explanatory power. These findings position leadership competencies not as isolated traits but as structured job resources that mitigate withdrawal cognitions.

Creativity, innovation, critical thinking, and problem-solving emerged as comparatively stronger predictors, highlighting the importance of strategic and adaptive leadership in complex school environments. Communication and collaboration, as well as digital literacy, also demonstrated meaningful direct effects, reinforcing the relevance of relational and technological competence in retention dynamics.

The moderation analysis refines existing theory by identifying job satisfaction as a contextual amplifier rather than a universal moderator. Specifically, satisfaction strengthened the negative relationships between (a) critical thinking and problem solving and turnover intention and (b) creativity and innovation and turnover intention. In contrast, communication, collaboration, and digital literacy operated primarily as direct predictors. This pattern suggests that some leadership competencies exert stable structural effects, whereas others are more sensitive to the surrounding affective climate.

Overall, the findings support a boundary-condition model of competency-based leadership: leadership directly reduces turnover intention, and its strategic dimensions exert more substantial influence when teachers experience higher job satisfaction.

Practical Implications

The findings suggest that teacher retention strategies adopt a dual-resource framework that simultaneously strengthens leadership competencies and teacher job satisfaction. Given that strategic leadership dimensions, particularly critical thinking, problem-solving, and innovation, showed more substantial predictive effects, professional development programs for school administrators should prioritize scenario-based strategic decision-making training, innovation planning workshops, and adaptive leadership simulations.

Implementation should target school administrators at the institutional level, supported by district policy structures that embed competency-based leadership evaluation into performance appraisal systems. Because job satisfaction amplified selected leadership effects and emerged as the strongest direct predictor, leadership development initiatives should be accompanied by systemic efforts to enhance teacher satisfaction through workload balance, participatory





governance structures, transparent recognition systems, and supportive organizational climate interventions.

Although the moderation effects were statistically significant, the incremental variance explained was modest. This suggests that job satisfaction operates as a contextual enhancer rather than a dominant interaction force. Practically, leadership competencies such as critical thinking and innovation are likely to yield stronger retention benefits in schools where teachers already report moderate to high levels of satisfaction. In such environments, investments in strategic leadership development may translate more efficiently into reduced turnover intention.

Conversely, in schools with low job satisfaction, enhancing leadership competencies alone may not yield substantial retention gains. Administrators in these contexts should first prioritize stabilizing foundational satisfaction drivers, such as manageable workloads, recognition systems, and participatory decision-making, before expecting advanced leadership training to exert maximal impact. Thus, a staged intervention approach may be warranted: strengthening core working conditions first, followed by targeted enhancement of leadership competencies.

Expected outcomes of such integrated interventions include reduced withdrawal cognitions, strengthened organizational attachment, and greater retention stability. However, potential challenges include budget constraints, resistance to structural change, and misalignment between policy mandates and school-level autonomy. Phased implementation strategies and stakeholder consultation are recommended to mitigate these barriers and enhance sustainability.

Future applied research should examine whether structured leadership interventions produce measurable reductions in actual turnover rates over time using longitudinal, multi-source data designs.

Limitations and Future Research Directions

Several limitations warrant consideration.

First, the cross-sectional design limits causal inference. Although the final regression model demonstrated strong explanatory power ($R^2 = .69$), temporal sequencing cannot be established. Accordingly, the observed relationships should be interpreted as associative rather than causal, as the design does not permit definitive conclusions regarding directionality. While the findings suggest that leadership competencies and job satisfaction are linked to turnover intention, it cannot be conclusively determined whether leadership reduces turnover intention over time or whether lower turnover intention influences perceptions of leadership quality. Longitudinal or time-lagged studies are therefore needed to confirm causal ordering and examine the stability of these relationships across time.





Second, reliance on single-source self-report data raises potential concerns regarding common-method variance. While multicollinearity diagnostics indicated stable estimates, the use of perceptual measures for both predictors and outcomes may inflate observed associations due to shared method bias. Although statistical controls were applied, methodological remedies such as multi-source data collection, objective turnover records, or supervisor-rated leadership assessments would provide stronger internal validity and reduce potential response-related distortions.

Third, non-probability sampling restricts generalizability. Because the sample was context-specific, caution should be exercised in extending the findings to broader educational systems without replication. Replication using probability-based sampling across diverse institutional and cultural contexts would enhance external validity and test the robustness of the proposed boundary-condition model.

Finally, although job satisfaction was examined as a moderator, other potential boundary conditions, such as organizational commitment, psychological safety, and work engagement, remain unexplored. Future research should investigate whether these variables function as alternative or complementary moderators, thereby refining the theoretical precision of the leadership-retention relationship. Testing alternative moderators would further clarify the contextual conditions under which leadership competencies exert their strongest effects.

Beyond alternative moderators, future studies may expand the current framework by incorporating additional antecedents and broader life-context variables that influence turnover intention. For instance, Setthakorn (2019) highlighted the roles of family background and job embeddedness in shaping employees' intention to remain within organizations. Integrating job embeddedness constructs could enrich the present model by examining how community ties, organizational links, and personal life stability interact with leadership competencies and job satisfaction in predicting teacher retention. Similarly, Moonsri (2018) demonstrated that job satisfaction significantly influences organizational commitment, suggesting that commitment may function as an additional mediating mechanism linking leadership competencies to turnover intention. Incorporating organizational commitment into future models would allow researchers to examine whether leadership indirectly reduces turnover intention by strengthening attitudinal attachment. Such extensions would advance the current framework toward a more holistic, multi-level retention model that integrates leadership competencies, psychological resources, attitudinal commitment, and broader socio-contextual influences.





Conclusion

Grounded in Social Exchange Theory and the Job Demands-Resources (JD-R) model, this study provides empirical evidence that multidimensional 21st-century leadership competencies and job satisfaction are significant predictors of teachers' turnover intention. Across analyses, all four leadership dimensions - critical thinking and problem solving, communication and collaboration, creativity and innovation, and digital literacy - demonstrated significant negative associations with turnover intention, even after controlling for demographic variables. However, job satisfaction emerged as the most substantial predictor, highlighting its central and more proximal role in shaping teachers' withdrawal cognitions within organizational contexts.

The hierarchical regression model accounted for 69% of the variance in turnover intention, indicating strong explanatory power in this sample. Leadership competencies contributed a substantial increment in explained variance ($\Delta R^2 = .39$), while job satisfaction accounted for an additional 22%, underscoring its central position in retention-related processes. Although the moderating effects of job satisfaction were statistically significant for critical thinking and creativity, the incremental variance explained by interaction terms ($\Delta R^2 = .03$) was modest, suggesting that job satisfaction primarily functions as a powerful direct predictor while also conditionally strengthening selected leadership effects.

Beyond statistical significance, this study contributes to the literature in three important ways. First, it empirically validates a multidimensional model of 21st-century leadership competencies within the educational context, extending leadership research beyond traditional unidimensional approaches. Second, by integrating leadership competencies and job satisfaction within a single hierarchical and moderation framework, the study clarifies both their direct and conditional effects on turnover intention. Third, the substantial variance explained by the model reinforces the practical and theoretical significance of organizational and psychological resources in understanding teacher retention.

Importantly, demographic factors demonstrated comparatively limited explanatory power once organizational and psychological predictors were included, reinforcing contemporary retention research that emphasizes workplace climate and leadership quality over static personal characteristics. These findings suggest that turnover intention is shaped less by who teachers are and more by how they are led and supported. Overall, the findings suggest that leadership competencies function as organizational resources associated with lower turnover intention, particularly when embedded in satisfying work environments. Rather than functioning independently, leadership quality and job satisfaction operate in complementary ways. From a practical standpoint, leadership development initiatives are likely to yield greater retention





benefits when implemented alongside systemic efforts to enhance teachers' job satisfaction and the overall work climate. These complementary dynamics underscore the need for integrated retention strategies that combine competency-based leadership development with sustained efforts to strengthen teacher well-being.

Given the cross-sectional design, conclusions should be interpreted as associative rather than causal. Future longitudinal or multi-source research designs are recommended to examine directional pathways and long-term retention outcomes across diverse educational contexts. Overall, this study offers original empirical evidence that multidimensional leadership competencies and job satisfaction function as interrelated organizational resources that meaningfully reduce teachers' turnover intention, providing both theoretical clarification and actionable guidance for educational leaders.

Recommendations

Based on the findings, educational institutions should prioritize structured leadership development initiatives that strengthen multidimensional 21st-century competencies, particularly strategic problem-solving and innovation-oriented leadership. While all leadership dimensions demonstrated significant negative associations with turnover intention, critical thinking and creativity exhibited both direct and conditional effects, suggesting that adaptive and forward-looking leadership capabilities may be especially relevant in retention-related processes. Leadership preparation programs should therefore emphasize evidence-based decision-making, change management, collaborative leadership practices, and digital fluency, aligned with contemporary educational demands.

However, given that job satisfaction emerged as the most substantial predictor of turnover intention and explained additional variance beyond leadership competencies, institutional retention strategies should not rely solely on leadership training. Consistent with the Job Demands-Resources (JD-R) framework, schools should strengthen organizational resources that enhance teachers' job satisfaction, including manageable workload structures, transparent and fair evaluation systems, meaningful professional development pathways, and participatory governance mechanisms. These structural supports represent critical contextual conditions under which leadership competencies exert stronger protective associations with turnover intention.

Notably, the moderation findings indicate that job satisfaction primarily functions as a direct predictor, while modestly strengthening the negative associations between selected leadership competencies (critical thinking and creativity) and turnover intention. Thus, retention strategies are likely most effective when leadership development initiatives are integrated with systemic





efforts to enhance organizational climate and teacher well-being, rather than implemented in isolation.

At the policy level, leadership standards and evaluation frameworks may consider incorporating multidimensional 21st-century competencies to reflect their demonstrated association with retention-related outcomes. Such alignment would ensure that leadership preparation programs are responsive to contemporary organizational challenges and workforce stability concerns.

Finally, given the cross-sectional nature of the study, future research should employ longitudinal and multi-source designs to clarify temporal ordering and strengthen causal inference. Additional contextual moderators (e.g., organizational support, psychological safety, workload intensity) should be examined to refine theoretical models, and cross-cultural validation studies are warranted to assess the generalizability of these findings across diverse educational systems.

References

- Abilash, K., & Hassan, N. M. (2025). Challenges faced by teachers in classroom teaching practices with digital transformation during COVID-19: A survey study. *Dirosat Journal of Education, Social Sciences & Humanities*, 3(4), 606–617. <https://doi.org/10.58355/dirosat.v3i4.194>
- American Psychological Association. (2020). *Ethical principles of psychologists and code of conduct* (2002, amended June 1, 2010, and January 1, 2017). <https://www.apa.org/ethics/code>
- Amir, M. T., Lipka, O., & Sarid, M. (2025). Professional commitment and turnover intentions of elementary school teachers during educational crisis. *Frontiers in Education*, 10. <https://doi.org/10.3389/feduc.2025.1548359>
- Antonopoulou, H., Matzavinou, P., Giannoukou, I., & Halkiopoulos, C. (2025). Teachers' digital leadership and competencies in primary education: A cross-sectional behavioral study. *Education Sciences*, 15(2), Article 215. <https://doi.org/10.3390/educsci15020215>
- Bartra-Rivero, K. R., Vásquez-Pajuelo, L., Sánchez, G. A. Á., Díaz, E. M. A., Ilizarbe, G. S. M., Rodríguez-Barboza, J. R., ... Alarcón-Villalobos, Y. J. (2024). How digital competence reduces technostress. *Data & Metadata*, 3, Article 303. <https://doi.org/10.56294/dm2024303>
- [Needs author list verification if fewer than 21 authors.]
- Berber, N., Gašić, D., Katić, I., & Borocki, J. (2022). The mediating role of job satisfaction in the relationship between FWAs and turnover intentions. *Sustainability*, 14(8), Article 4502. <https://doi.org/10.3390/su14084502>





- Blau, P. M. (1964). Justice in social exchange. *Sociological Inquiry*, 34, 193–206.
<https://doi.org/10.1111/j.1475-682X.1964.tb00583.x>
- Cells, P., Sabina, L. L., Touchton, D., Shankar-Brown, R., & Sabina, K. L. (2022). Addressing teacher retention within the first three to five years of employment. *Athens Journal of Education*, 10(2), 345–364. <https://doi.org/10.30958/aje.10-2-9>
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Lawrence Erlbaum Associates. <https://doi.org/10.4324/9780203771587>
- Creswell, J. W., & Creswell, J. D. (2023). *Research design: Qualitative, quantitative, and mixed methods approaches* (6th ed.). SAGE Publications.
- Cuervo, H., & Vera-Toscano, E. (2025). Teacher retention and attrition: Understanding why teachers leave and their post-teaching pathways in Australia. *Asia Pacific Journal of Education*, 1–18. <https://doi.org/10.1080/02188791.2025.2473356>
- Dubey, P., Pathak, A. K., & Sahu, K. K. (2023). Assessing the influence of effective leadership on job satisfaction and organisational citizenship behaviour. *Rajagiri Management Journal*, 17(3), 221–237. <https://doi.org/10.1108/RAMJ-07-2022-0108>
- Gan, Y., Deng, J., Liu, C., & Li, S. (2025). Exploring gender differences in workload and job performance: Insights from junior high school teachers. *BMC Psychology*, 13(1).
<https://doi.org/10.1186/s40359-025-02439-z>
- Hamzah, N., Radzi, N. M., & Omar, I. M. (2025). Digital leadership competencies through a systematic literature review: Bridging educational development and organizational success. *International Journal of Modern Education*, 7(24), 37–64.
<https://doi.org/10.35631/IJMOE.724003>
- Hobfoll, S. E. (1989). Conservation of resources: A new attempt at conceptualizing stress. *American Psychologist*, 44(3), 513–524. <https://doi.org/10.1037/0003-066X.44.3.513>
- Hulme, M., & Wood, J. (2022). The importance of starting well: The influence of early career support on job satisfaction and career intentions in teaching. *Journal of Further and Higher Education*, 46(4), 504–521. <https://doi.org/10.1080/0309877X.2021.1985981>
- Ike, O. O., Ugwu, L. E., Enwereuzor, I. K., Eze, I. C., Omeje, O., & Okonkwo, E. (2023). Expanded-multidimensional turnover intentions: Scale development and validation. *BMC Psychology*, 11(1). <https://doi.org/10.1186/s40359-023-01303-2>
- Johnson, R. B., & Christensen, L. B. (2024). *Educational research: Quantitative, qualitative, and mixed approaches*. SAGE Publications.
- Khan, N. A., Bahadur, W., Ramzan, M., & Pravdina, N. (2024). Turning the tide: An impact of leader empowering behavior on employees' work–family conflict, spillover, and turnover





intention in tourism. *Leadership & Organization Development Journal*, 45(2), 353–373.

<https://doi.org/10.1108/LODJ-02-2023-0099>

Krimjai, W., Espejo, A. C., Jr., & Del Villar, J. R. B. (2025). The mediating effect of motivation on the relationship between work passion and job satisfaction in selected private secondary schools in Nakhon Nayok Province. *St. Theresa Journal of Humanities and Social Sciences*, 11(1).

[DOI or URL not provided.]

Kurniawati, D. T., Masyhuri, M., & Izza, N. A. (2022). Leadership effectiveness as a predictor of turnover intention: Determinants of work stress. *International Journal of Research in Business and Social Science*, 11(9), 131–139. <https://doi.org/10.20525/ijrbs.v11i9.2182>

Ladres, K. S., & García, N. P. (2025). Occupational stress and burnout towards teachers' turnover intent: Basis for a proposed “Equipping Educators for Job Stress” program. *European Journal of Education Studies*, 12(8). <https://doi.org/10.46827/ejes.v12i8.6146>

Mahama, I., Tigtig, J., Nandzo, A., Baidoo-Anu, D., Eshun, P., & Antwi-Danso, S. (2025). Teachers' characteristics and self-efficacy as predictors of their turnover intentions. *Research Square*. <https://doi.org/10.21203/rs.3.rs-7294090/v1>

Mitprasat, M., Namdech, P., Rotjanawasuthorn, S., Wongchestha, N., Karim, F., & Jermstittiparsert, K. (2024). The nexus between leadership, job satisfaction, organizational culture, and organizational performance of public sector organizations. *Asian Political Science Review*, 8(2), 84–98. <https://doi.org/10.14456/apsr.2024.18>

Moonsri, K. (2018). The influence of job satisfaction on organizational commitment of small and medium business employees. *Asian Administration and Management Review*, 1(1), 138–146.

Olubiyi, T. O. (2024). Understanding leadership competencies and their impact on small business profitability: Evidence from Sub-Saharan Africa. *Asian Administration and Management Review*, 7(2), 254–269. <https://doi.org/10.14456/aamr.2024.39>

Organisation for Economic Co-operation and Development. (2020). *OECD future of education and skills 2030: OECD learning compass 2030*. OECD Publishing. <https://www.oecd.org/education/2030-project/>

Phakamach, P., Panjarattanakorn, D., & Seenonlee, A. (2025). Innovative leadership for professional education administrators in the digital age. *Journal of Education and Learning Reviews*, 2(3), 153–170. <https://doi.org/10.60027/jelr.2025.1765>

Prihartati, I., Priambodo, E. A., & Budiantoro, A. (2023). The influence of psychological safety and transformational leadership on employee engagement through the meaning of work. *Journal of World Science*, 2(9), 1290–1297. <https://doi.org/10.58344/jws.v2i9.412>





- Putri, A. R., & Renwarin, J. M. J. (2023). The effect of leadership and teamwork on employee turnover and team performance. *Human Capital and Organizations*, 1(1), 46–54. <https://doi.org/10.58777/hco.v1i1.121>
- QiaLian, Z., Hanid, A. H. B., & Nor, M. Y. M. (2024). Exploring teachers' organizational commitment and turnover in high school. *International Journal of Academic Research in Progressive Education and Development*, 13(3), 3501–3514. <https://doi.org/10.6007/IJARPED/v13-i3/21871>
- Rajãa, O., & Mekkaoui, A. (2025). Revealing the impact of social exchange theory on financial performance: A systematic review of the mediating role of human resource performance. *Cogent Business & Management*, 12(1). <https://doi.org/10.1080/23311975.2025.2475983>
- Schartner, A., Young, T., & Snodin, N. (2022). Intercultural adjustment of internationally mobile academics working in Thailand. *Higher Education*, 85(3), 483–502. <https://doi.org/10.1007/s10734-022-00846-4>
- Seriwatana, P. (2021). Diversity climate as a key to employee retention: The moderating role of perceived cultural difference. *Asian Administration and Management Review*, 4(2), 46–62. <https://doi.org/10.14456/aamr.2021.5>
- Setthakorn, K. (2019). Family background and its impact on job embeddedness and turnover intention: The moderating role of the number of dependents and family income level. *PSAKU International Journal of Interdisciplinary Research*, 8(2), 99–108. <https://so05.tci-thaijo.org/index.php/PSAKUIJIR/article/view/242925>
- Sorensen, L. C., & Ladd, H. F. (2020). The hidden costs of teacher turnover. *AERA Open*, 6(1). <https://doi.org/10.1177/2332858420905812>
- Thanchonnang, S., Tadadej, C., Kittipichai, W., & Anunmana, C. (2023). Job satisfaction and work-life balance affecting retention of Generation Y support staff: A case study of the Faculty of Dentistry of a university in Thailand during the COVID-19 pandemic. *Asian Political Science Review*, 7(2), 1–11. <https://doi.org/10.14456/apsr.2023.6>
- Thompson, A. (2020). *Stress and job satisfaction as predictors of teacher turnover intentions* (Publication No. 8652) [Doctoral dissertation, Walden University]. *Walden Dissertations and Doctoral Studies*. <https://scholarworks.waldenu.edu/dissertations/8652>
- Tummers, L., & Bakker, A. B. (2021). Leadership and job demands-resources theory: A systematic review. *Frontiers in Psychology*, 12. <https://doi.org/10.3389/fpsyg.2021.722080>
- Wei, S., & Bunchapattanasakda, C. (2024). Impact of female servant leadership style on employee engagement in Beijing's public universities. *Asian Political Science Review*, 8(2), 99–105. <https://doi.org/10.14456/apsr.2024.19>





- Williams, C. L. (2025). *How can school leadership styles influence teacher burnout and academic outcomes for students?* [Master's thesis, Concordia University, St. Paul]. *DigitalCommons@CSP*. https://digitalcommons.csp.edu/teacher-education_masters/153
- World Medical Association. (2013). World Medical Association declaration of Helsinki: Ethical principles for medical research involving human subjects. *JAMA*, *310*(20), 2191–2194. <https://doi.org/10.1001/jama.2013.281053>
- Xu, Z., & Pang, N. S. (2024). Promoting teachers' organizational commitment: The effects of authentic leadership, teachers' well-being, and social-emotional competence. *Behavioral Sciences*, *14*(10), Article 862. <https://doi.org/10.3390/bs14100862>

