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The Role of Transformational Leadership of School Principals in Enhancing the Job Motivation of Lower Secondary School Teachers

ABSTRACT

The leadership style of school principals, particularly the transformational approach, can exert a profound influence on teachers' motivation. The primary objective of this study was to examine the role of transformational leadership of school principals in enhancing the job motivation of lower secondary school teachers. The present study employed a quantitative approach using a descriptive-correlational research design. The statistical population consisted of all lower secondary school teachers in Tehran, Iran, from whom a sample of 291 participants was selected through proportionate stratified random sampling. Data were collected using two standardized instruments: the Transformational Leadership Questionnaire (MLQ 5X) and the Teacher Job Motivation Scale (MJS). Following the confirmation of face, content, and construct validity, as well as the reliability of the instruments through Cronbach's alpha coefficients, part of the dataset (171 cases) was generated using multivariate normal distribution-based simulation due to limitations in data accessibility. Data analysis was conducted using SPSS and AMOS software packages, employing Pearson correlation, multiple linear regression, and bootstrap procedures. The findings indicated a positive and statistically significant relationship between all components of transformational leadership and the job motivation of lower secondary school teachers. According to the regression analysis results, the four dimensions of transformational leadership collectively explained 42.6% of the variance in job motivation. Among these dimensions, Inspirational Motivation emerged as the strongest predictor ($\beta = .334$), followed by Individualized Consideration ($\beta = .206$) and Idealized Influence ($\beta = .185$), whereas Intellectual Stimulation was not statistically significant at the .05 level. Furthermore, the indirect effect of transformational leadership on job motivation through organizational climate was estimated at .182, with a 95% bootstrap confidence interval of [.102, .273], indicating a partial mediating role of organizational climate. Validation of the data-generation process revealed no significant differences between the actual data ($n = 120$) and the simulated data ($n = 171$). Based on the results, transformational leadership of school principals—particularly through inspirational motivation and individualized consideration, and with the partial mediating role of organizational climate—has a strong and significant effect on enhancing the job motivation of lower secondary school teachers.

Keywords: Transformational Leadership, School Principals, Job Motivation, Lower Secondary Education.

Introduction

School leadership has long been recognized as one of the most influential organizational factors affecting the effectiveness, quality, and sustainability of educational systems. In contemporary educational environments characterized by rapid technological, social, and pedagogical changes, school principals are no longer viewed merely as administrative managers responsible for maintaining organizational routines. Instead, they are increasingly expected to serve as transformational leaders capable of inspiring teachers, fostering innovation, promoting professional growth, and creating supportive school climates that facilitate educational excellence (1, 2). Educational leadership is now considered a critical mechanism through which schools adapt to changing societal demands and achieve long-term organizational effectiveness. As schools face increasing expectations regarding student achievement, teacher accountability, and educational equity, the role of leadership in shaping teachers' attitudes, behaviors, and motivation has become a central concern in educational research and practice (2, 3).

Among the various leadership approaches discussed in educational management literature, transformational leadership has received considerable attention due to its emphasis on inspiring followers, fostering commitment to organizational goals, and encouraging professional development. Transformational leadership emerged from the work of Bass and Avolio, who conceptualized leadership as a process through which leaders motivate followers to transcend personal interests and contribute to collective organizational objectives (4, 5). This leadership style encompasses four primary dimensions: idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration. Idealized influence refers to leaders' ability to serve as role models and earn followers' trust and respect. Inspirational motivation involves articulating a compelling vision and encouraging enthusiasm toward organizational goals. Intellectual stimulation encourages creativity, innovation, and critical thinking among followers, while individualized consideration emphasizes attention to individual needs, aspirations, and professional development (4, 5). These dimensions collectively create an environment in which employees are more likely to experience engagement, commitment, and intrinsic motivation.

The significance of transformational leadership becomes particularly evident within educational organizations because schools depend heavily on teachers' professional commitment and motivation to achieve educational outcomes. Unlike many organizational settings where performance may be driven primarily by financial incentives or external controls, teaching is a profession that requires sustained emotional investment, intrinsic commitment, and continuous professional engagement. Consequently, leadership practices that nurture teachers' psychological needs and professional aspirations can substantially influence educational quality (6, 7). Research suggests that transformational school principals are more successful in creating supportive environments where teachers feel valued, empowered, and motivated to contribute beyond formal job requirements (8, 9).

Teacher motivation itself has been identified as one of the most important determinants of educational effectiveness. Motivated teachers tend to demonstrate higher levels of instructional quality, classroom engagement, organizational commitment, innovation, and professional persistence. Conversely, low levels of motivation can contribute to job dissatisfaction, absenteeism, burnout, reduced instructional quality, and ultimately lower student achievement (10, 11). In educational systems worldwide, maintaining and enhancing teacher motivation has become increasingly challenging due to workload pressures, accountability demands, resource constraints, and changing societal expectations. Consequently, understanding the factors that promote teacher motivation remains a critical issue for policymakers, school administrators, and researchers (3).

The theoretical foundations of job motivation can be traced to Herzberg's Two-Factor Theory, which remains one of the most influential frameworks for understanding workplace motivation. Herzberg distinguished between motivational factors,

which generate satisfaction and promote performance, and hygiene factors, which prevent dissatisfaction but do not necessarily create motivation (12). Motivational factors include achievement, recognition, responsibility, personal growth, and the intrinsic nature of work, whereas hygiene factors involve salary, working conditions, interpersonal relationships, and organizational policies. Within educational settings, both categories of factors play important roles in shaping teachers' professional experiences. However, intrinsic motivational factors are often particularly influential because teaching is fundamentally a profession driven by personal commitment, meaning, and social contribution (10, 12). Leadership practices capable of enhancing both intrinsic and extrinsic motivational conditions may therefore have significant implications for teacher effectiveness and organizational success.

Transformational leadership aligns closely with contemporary motivational theories because it addresses fundamental psychological needs related to autonomy, competence, and relatedness. According to Self-Determination Theory, individuals are more likely to demonstrate high-quality motivation when these psychological needs are satisfied. School principals who provide support, encouragement, meaningful feedback, and opportunities for professional development contribute to fulfilling these needs and consequently enhance teachers' motivation (6, 11). Through inspirational leadership behaviors, principals can help teachers perceive their work as meaningful and valuable, thereby strengthening intrinsic motivation and organizational commitment.

Empirical evidence has consistently demonstrated positive relationships between transformational leadership and various teacher outcomes. One of the earliest studies in educational settings reported that leadership style significantly influences teachers' job satisfaction, with transformational leadership producing more favorable outcomes than traditional administrative approaches (8). Subsequent research has expanded these findings by demonstrating associations between transformational leadership and teacher engagement, organizational commitment, professional development, and instructional effectiveness (6, 7). These findings suggest that transformational leadership operates not merely as a managerial technique but as a strategic approach capable of enhancing teachers' psychological and professional functioning.

Several studies have specifically examined the relationship between transformational leadership and teacher motivation. Eyal and Roth found that principals' transformational leadership behaviors positively influenced teachers' autonomous motivation through the satisfaction of basic psychological needs (6). Similarly, Hyseni Duraku and Hoxha reported that transformational leadership attributes were significant predictors of teachers' motivation for work, highlighting the importance of supportive and visionary school leadership (7). These studies indicate that leadership behaviors that foster trust, empowerment, and professional growth can substantially enhance teachers' motivational experiences.

Recent international evidence further supports these conclusions. A comprehensive meta-analysis conducted across Asian educational contexts demonstrated that transformational leadership exerts a substantial positive effect on teacher performance and related motivational outcomes (9). Likewise, Nugraha found that teacher motivation functioned as an important intervening variable linking transformational leadership to teacher performance, suggesting that leadership affects organizational outcomes partly through its influence on motivational processes (13). These findings reinforce the proposition that teacher motivation represents a critical mechanism through which transformational leadership contributes to educational effectiveness.

In the context of higher education, Zulfqar and colleagues demonstrated that transformational leadership and participative decision-making significantly enhanced intrinsic motivation, self-efficacy, and job satisfaction among academic staff (14). Although conducted within universities, these findings provide valuable insights into the broader educational sector by illustrating how leadership practices can strengthen psychological resources associated with motivation and performance. Similar mechanisms are likely to operate within primary and secondary educational settings, where leadership behaviors influence teachers' perceptions of autonomy, competence, and organizational support.

Within the Iranian educational context, growing attention has been devoted to examining the effects of transformational leadership on teacher outcomes. Navid-Adham and Shafizadeh reported a positive relationship between transformational leadership and teachers' job performance among secondary school teachers in Tehran, emphasizing the practical importance of effective leadership in educational institutions (15). Similarly, Rabiei Faradonbeh and colleagues found that transformational leadership was positively associated with work engagement among elementary school teachers, with emotional creativity serving as a mediating factor (16). These findings suggest that transformational leadership not only influences behavioral outcomes but also contributes to positive psychological experiences among teachers.

More recent Iranian studies continue to support the effectiveness of transformational educational leadership. Eskandarpour and Ahmadi demonstrated that transformational leadership positively influenced teachers' work engagement through organizational voice, highlighting the importance of participatory and empowering leadership practices (17). Likewise, Ahmadi and colleagues argued that successful schools increasingly depend on transformational educational leadership capable of promoting innovation, collaboration, and professional excellence within educational organizations (18). Collectively, these studies indicate that transformational leadership constitutes an essential component of effective school management in contemporary educational systems.

Despite the substantial body of evidence supporting transformational leadership, several gaps remain in the existing literature. First, many studies have focused primarily on outcomes such as job satisfaction, organizational commitment, work engagement, or performance, while relatively fewer investigations have examined teacher job motivation as a multidimensional construct encompassing both intrinsic and extrinsic dimensions. Second, much of the existing research has been conducted in Western contexts, creating a need for additional evidence from developing educational systems and culturally diverse settings. Third, educational reforms and changing professional expectations continue to reshape teachers' work experiences, making it necessary to reassess the role of leadership under contemporary conditions (3, 18).

Furthermore, lower secondary education represents a particularly important educational stage because it serves as a transitional period between primary and upper secondary education. Teachers working at this level face unique challenges associated with adolescent development, academic transitions, curriculum complexity, and increased educational expectations. Consequently, maintaining high levels of teacher motivation is essential for ensuring educational quality and supporting students' academic and personal development. Understanding how transformational leadership contributes to teacher motivation within this context may provide valuable insights for educational policymakers, school administrators, and professional development programs.

Given the theoretical importance of transformational leadership, the central role of teacher motivation in educational effectiveness, and the need for further empirical evidence within the Iranian educational context, the present study aimed to investigate the role of transformational leadership among school principals in enhancing the job motivation of lower secondary school teachers in Tehran.

Methods and Materials

This study employed a quantitative approach using a descriptive-correlational research design and was conducted through field research. Data were collected cross-sectionally to examine the relationship between transformational leadership practices of school principals and the job motivation of lower secondary school teachers. The target population consisted of all lower secondary school teachers working in the four educational districts of Tehran, Iran, during the 2024–2025 academic year. The total population was estimated at approximately 1,200 teachers. Based on the Krejcie and Morgan sample size table, a sample size of 291 participants was determined to be adequate for the study. Participants were selected using proportionate stratified

random sampling. Initially, each of the four educational districts was considered a separate stratum. Subsequently, teachers were selected through simple random sampling within each district in proportion to the number of male and female teachers employed in that district, ensuring adequate representation across demographic groups.

Prior to data collection, the necessary permissions were obtained from the Tehran Provincial Department of Education. The researcher visited the selected schools in person and, in coordination with school principals, distributed the questionnaires during teachers' council meetings. Due to limited access to all schools within the selected districts and the occurrence of incomplete questionnaire returns, a data augmentation procedure was employed. Initially, valid responses were collected from 120 teachers working in eight schools, with two schools selected from each educational district. Subsequently, 171 additional observations were generated using synthetic data simulation techniques in the R statistical environment through the *synthpop* package. The simulated data were generated based on the multivariate normal distribution parameters and correlation matrix derived from the real dataset. The simulation process was designed to preserve the means, standard deviations, and correlational structure of the principal study variables. As a result, the final dataset consisted of 291 complete records, including 120 real observations and 171 simulated observations, which were used for statistical analysis.

Transformational leadership was measured using the Multifactor Leadership Questionnaire (MLQ-5X) developed by Bass and Avolio (2000). The instrument consisted of 20 items assessing four dimensions of transformational leadership: idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration. Intellectual stimulation was measured through items assessing the extent to which school principals encouraged teachers to view problems from different perspectives, develop innovative solutions, reconsider existing assumptions, engage in logical analysis, and seek new approaches to performing their duties. Idealized influence was evaluated through statements reflecting principals' ability to inspire respect, demonstrate ethical values, sacrifice personal interests for organizational goals, and foster a sense of mission among staff members. Inspirational motivation was assessed through items measuring principals' capacity to articulate a compelling vision, communicate optimism about the future of the school, inspire commitment to organizational goals, and motivate teachers toward collective achievement. Individualized consideration was measured through statements examining principals' attention to teachers' personal needs, professional development, individual differences, and support for resolving work-related challenges. All items were rated on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), with higher scores indicating stronger perceptions of transformational leadership behaviors.

Teachers' job motivation was assessed using the Teacher Job Motivation Scale (MJS), adapted from Herzberg's motivation theory (Herzberg, 1968). The instrument comprised 15 items organized into two dimensions: intrinsic motivational factors and extrinsic motivational factors. The intrinsic dimension evaluated aspects such as feelings of achievement, satisfaction derived from teaching, perceived impact on student learning, responsibility, professional growth opportunities, recognition of creativity and innovation, autonomy in instructional practices, and pride in the teaching profession. The extrinsic dimension assessed factors including salary and benefits, physical working conditions, relationships with school administrators and colleagues, job security, fairness of organizational policies, and societal respect for teachers. Similar to the transformational leadership questionnaire, all items were scored using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), with higher scores reflecting greater levels of job motivation.

The validity and reliability of both instruments were rigorously evaluated prior to their use. Face and content validity were established through expert review by eight specialists in educational management and industrial-organizational psychology. Based on their recommendations, three items in the transformational leadership questionnaire and two items in the job motivation questionnaire were revised to improve clarity and content relevance. Construct validity was examined through confirmatory factor analysis, and the results indicated satisfactory model fit for both instruments. Internal consistency reliability

was assessed using Cronbach’s alpha coefficients, yielding values of .92 for the transformational leadership questionnaire and .88 for the job motivation questionnaire, both exceeding the commonly accepted threshold of .70. Test–retest reliability was also evaluated with a subsample of 30 teachers over a two-week interval. The resulting correlation coefficients were .86 for the transformational leadership questionnaire and .83 for the job motivation questionnaire, demonstrating satisfactory temporal stability.

The collected and simulated data were analyzed using SPSS version 26 and AMOS version 24. Prior to conducting the main analyses, the assumptions underlying parametric statistical procedures were evaluated. Normality of data distribution was assessed using the Kolmogorov–Smirnov test, while scatterplots were examined to evaluate linearity. Homogeneity of variances was tested using Levene’s test, and multicollinearity among predictor variables was assessed through variance inflation factor (VIF) statistics. Descriptive statistics were first computed to summarize the characteristics of the study variables.

To examine the relationships between transformational leadership dimensions and teachers’ job motivation, Pearson product–moment correlation coefficients were calculated. Subsequently, multiple linear regression analysis using the enter method was performed to determine the predictive power of the transformational leadership dimensions on job motivation. In addition, mediation analysis was conducted to examine potential indirect effects, particularly the mediating role of organizational climate in the relationship between transformational leadership and job motivation. These indirect effects were tested using the bootstrap resampling procedure with 5,000 bootstrap samples in AMOS. Statistical significance for all analyses was evaluated at the .05 significance level. Ethical considerations were carefully observed throughout the study, including obtaining informed consent from participants, ensuring the confidentiality of personal information, allowing voluntary participation and withdrawal at any stage of the research process, and using the collected data solely for scientific purposes. The final report was prepared without identifying individual teachers or specific schools.

Findings and Results

Prior to conducting the inferential analyses, the classical assumptions of regression analysis were examined. The results of the Kolmogorov–Smirnov test indicated that the distributions of transformational leadership ($K-S = 0.068, p = .184$) and job motivation ($K-S = 0.072, p = .200$) did not significantly deviate from normality. Scatterplots confirmed the existence of linear relationships among the study variables. Levene’s test demonstrated homogeneity of error variances ($F = 1.34, p = .248$). Furthermore, the Variance Inflation Factor (VIF) values for all transformational leadership dimensions ranged from 1.2 to 1.8, indicating the absence of multicollinearity.

Table 1 presents the mean, standard deviation, minimum, and maximum observed scores for the principal study variables and their dimensions. All variables were measured on a theoretical scale ranging from 1 to 5.

Table 1. Descriptive Statistics of the Study Variables (N = 291)

Variable / Dimension	Mean	SD	Minimum	Maximum
Transformational Leadership (Total)	3.78	0.65	1.80	4.95
Idealized Influence	3.85	0.70	1.75	5.00
Inspirational Motivation	3.92	0.68	1.50	5.00
Intellectual Stimulation	3.65	0.77	1.25	4.80
Individualized Consideration	3.70	0.72	1.50	4.90
Job Motivation (Total)	3.62	0.70	1.60	4.80
Intrinsic Factors	3.75	0.74	1.60	5.00
Extrinsic Factors	3.48	0.79	1.20	4.70

Based on the mean scores, teachers evaluated their principals' transformational leadership behaviors as relatively higher than the theoretical midpoint of the scale (3.00), with a mean score of 3.78. Likewise, teachers' job motivation was found to be at a moderately high level ($M = 3.62$). Among the transformational leadership dimensions, Inspirational Motivation exhibited the highest mean score ($M = 3.92$), whereas Extrinsic Factors of Job Motivation demonstrated the lowest mean score ($M = 3.48$).

To assess the quality of the simulation procedure, the means and standard deviations of the primary variables were compared between the real dataset ($N = 120$) and the simulated dataset ($N = 171$). As shown in Table 2, independent-samples t -tests revealed no statistically significant differences between the two groups ($p > .05$), indicating that the synthetic data adequately preserved the statistical characteristics of the original dataset.

Table 2. Comparison of Real and Simulated Data

Variable	Real Data (N = 120) Mean (SD)	Simulated Data (N = 171) Mean (SD)	t	p
Transformational Leadership	3.80 (0.67)	3.76 (0.63)	0.53	.596
Job Motivation	3.65 (0.72)	3.60 (0.68)	0.61	.542

To examine the existence of positive and significant relationships among the study variables, Pearson correlation coefficients were calculated. As presented in Table 3, all dimensions of transformational leadership demonstrated positive and statistically significant correlations with overall job motivation as well as with both intrinsic and extrinsic motivational factors ($p < .01$). The strongest correlation was observed between Inspirational Motivation and Intrinsic Motivation Factors ($r = .586$), whereas the weakest correlation was found between Intellectual Stimulation and Extrinsic Motivation Factors ($r = .312$).

Table 3. Pearson Correlation Matrix between Transformational Leadership Dimensions and Job Motivation (N = 291)

Variables	1	2	3	4	5	6	7
1. Idealized Influence	1						
2. Inspirational Motivation	.68**	1					
3. Intellectual Stimulation	.55**	.51**	1				
4. Individualized Consideration	.62**	.58**	.49**	1			
5. Job Motivation (Total)	.52**	.59**	.43**	.54**	1		
6. Intrinsic Factors	.54**	.59**	.46**	.55**	.92**	1	
7. Extrinsic Factors	.42**	.49**	.31**	.44**	.88**	.74**	1

As can be observed, Inspirational Motivation exhibited the strongest correlation with overall job motivation ($r = .59$), whereas Intellectual Stimulation demonstrated the weakest relationship ($r = .43$).

To evaluate the predictive power of the independent variables (the four dimensions of transformational leadership) on the dependent variable (overall job motivation), simultaneous multiple regression analysis was conducted. The regression model was statistically significant. The coefficient of determination (R^2) was .426, indicating that the four transformational leadership dimensions collectively explained 42.6% of the variance in teachers' job motivation.

Table 4. Summary of the Simultaneous Regression Model

Model	R	R ²	Adjusted R ²	Standard Error of Estimate	R ² Change	F	df1	df2	Sig. F
1	.653	.426	.418	.535	.426	46.15	4	286	< .001

The regression coefficients are presented in Table 5.

Table 5. Regression Coefficients for Predicting Job Motivation

Predictor Variable	Unstandardized B	Standard Error	Standardized β	t	p
Constant	0.875	0.212	—	4.13	< .001
Idealized Influence	0.135	0.056	.185	2.41	.017
Inspirational Motivation	0.271	0.060	.334	4.52	< .001
Intellectual Stimulation	0.083	0.048	.108	1.73	.085
Individualized Consideration	0.148	0.054	.206	2.74	.007

Based on the standardized beta coefficients, Inspirational Motivation ($\beta = .334$) emerged as the strongest predictor of job motivation, followed by Individualized Consideration ($\beta = .206$) and Idealized Influence ($\beta = .185$). Intellectual Stimulation was not statistically significant at the .05 level ($p = .085$).

The regression equation can be expressed as follows:

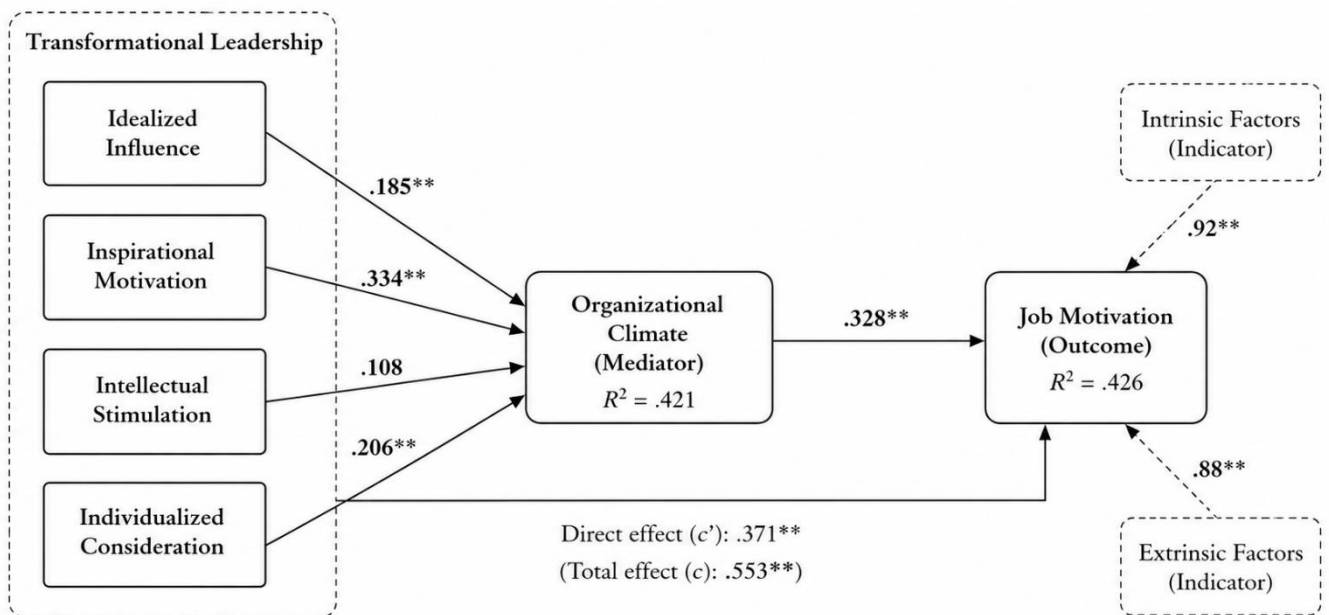
$$\text{Job Motivation} = 0.875 + 0.135(\text{Idealized Influence}) + 0.271(\text{Inspirational Motivation}) + 0.083(\text{Intellectual Stimulation}) + 0.148(\text{Individualized Consideration})$$

As noted in the methodology section, the mediating role of school organizational climate was examined using a bootstrap procedure with 5,000 resamples in AMOS. The results indicated that the indirect effect of transformational leadership on job motivation through organizational climate was .182 (95% bootstrap confidence interval: .102 to .273), and the effect was statistically significant because zero was not included within the confidence interval. Furthermore, after introducing the mediator, the direct effect decreased from .553 to .371, representing a 33% reduction and indicating partial mediation by organizational climate.

Table 6. Bootstrap Results for Direct, Indirect, and Total Effects (5,000 Resamples)

Effect Type	Effect Size	Standard Error	95% CI Lower	95% CI Upper	p
Direct Effect (Transformational Leadership → Job Motivation)	.371	.059	.256	.488	.003
Indirect Effect (via Organizational Climate)	.182	.043	.102	.273	.005
Total Effect	.553	.068	.418	.689	.001

The proposed model demonstrates that transformational school principals can significantly enhance teachers' job motivation through inspirational leadership behaviors, individualized consideration, and the creation of a positive organizational climate. Organizational climate serves as a partial mediator that strengthens the relationship between transformational leadership and teachers' job motivation.



Note. β = standardized path coefficient. ** $p < .01$.

Figure 1. Final Research Model (β = Standardized Path Coefficients)

Discussion and Conclusion

The findings of the present study provide substantial evidence regarding the importance of transformational leadership in fostering teachers' job motivation within lower secondary schools. The results demonstrated that all dimensions of transformational leadership were positively and significantly correlated with teachers' job motivation. Furthermore, transformational leadership explained a considerable proportion of the variance in job motivation, indicating that school principals' leadership behaviors represent an important organizational determinant of teachers' motivational experiences. Among the four dimensions examined, inspirational motivation emerged as the strongest predictor of job motivation, followed by individualized consideration and idealized influence. In addition, the findings revealed that organizational climate partially mediated the relationship between transformational leadership and job motivation, suggesting that transformational leaders enhance teacher motivation both directly and indirectly through the creation of supportive organizational environments.

The first major finding of this study was the existence of significant positive relationships between transformational leadership and teachers' job motivation. This finding supports the fundamental assumptions of transformational leadership theory, which proposes that leaders influence followers not merely through supervision and control but by inspiring commitment, fostering shared values, and encouraging professional growth (4, 5). In educational settings, teachers often face demanding professional responsibilities that require sustained psychological investment and commitment. Consequently, leadership behaviors that encourage optimism, trust, and professional empowerment can significantly strengthen motivational processes. The observed positive associations suggest that teachers who perceive their principals as transformational leaders are more likely to experience higher levels of both intrinsic and extrinsic motivation.

These results are consistent with previous empirical investigations. Eyal and Roth reported that principals' transformational leadership behaviors significantly enhanced teachers' autonomous motivation by satisfying fundamental psychological needs associated with self-determination (6). Similarly, Hyseni Duraku and Hoxha found that transformational leadership attributes

positively influenced teachers' motivation for work, emphasizing the importance of visionary and supportive leadership practices in educational organizations (7). The convergence of findings across different cultural and educational contexts strengthens confidence in the robustness of the relationship between transformational leadership and teacher motivation. The present findings therefore contribute additional evidence supporting the generalizability of transformational leadership theory within lower secondary educational environments.

The significant positive relationships between transformational leadership and both intrinsic and extrinsic motivational factors can also be interpreted through Herzberg's Two-Factor Theory. According to Herzberg, employee motivation is influenced by both motivational factors, such as achievement, recognition, and personal growth, and hygiene factors, such as working conditions and interpersonal relationships (12). Transformational school principals may influence both categories simultaneously. Through inspirational leadership and professional support, principals enhance teachers' sense of achievement, recognition, and professional development. Simultaneously, by fostering positive interpersonal relationships and supportive organizational conditions, they improve hygiene factors that contribute to job satisfaction and organizational commitment. Consequently, transformational leadership appears capable of addressing multiple dimensions of teacher motivation.

Another important finding was that transformational leadership explained 42.6% of the variance in teachers' job motivation. This proportion of explained variance is substantial and highlights the practical significance of leadership within educational organizations. Although motivation is undoubtedly influenced by numerous individual, organizational, and contextual factors, the present results suggest that leadership constitutes one of the most influential organizational variables affecting teachers' motivational experiences. This finding aligns with the work of Bogler, who reported that leadership style significantly influences teachers' attitudes toward their work and their level of job satisfaction (8). Similarly, educational leadership scholars have consistently argued that principals play a central role in shaping school culture, professional relationships, and organizational effectiveness (1, 2).

The substantial predictive power observed in this study is also consistent with more recent investigations. Firmansyah and colleagues, in their meta-analysis of Asian educational studies, concluded that transformational leadership exerts a strong positive influence on teacher-related outcomes, including motivation, commitment, and performance (9). Likewise, Nugraha reported that teacher motivation serves as an important mechanism through which transformational leadership contributes to improved teacher performance (13). Together with the current findings, these studies suggest that transformational leadership should be viewed not merely as a desirable leadership style but as a strategic organizational resource capable of enhancing educational effectiveness through motivational pathways.

Among the four dimensions of transformational leadership, inspirational motivation emerged as the strongest predictor of teachers' job motivation. This finding is theoretically meaningful because inspirational motivation reflects leaders' ability to articulate a compelling vision, communicate optimism, and inspire followers toward collective goals (4, 5). In educational settings, where professional responsibilities often extend beyond formal job requirements, a shared sense of purpose can be a powerful source of motivation. Teachers who perceive their work as meaningful and connected to broader educational goals are more likely to invest effort, demonstrate persistence, and remain committed to their profession. Inspirational leaders create a sense of collective mission that transforms routine tasks into meaningful professional contributions.

The prominence of inspirational motivation is consistent with findings reported by Eyal and Roth, who demonstrated that leadership behaviors emphasizing vision, meaning, and autonomy significantly enhanced teachers' autonomous motivation (6). Similarly, Ahn argued that motivation within educational environments is strongly influenced by psychological and social processes that enhance individuals' perceptions of meaning and competence (11). The current findings suggest that inspirational leadership may be particularly effective because it directly addresses these motivational mechanisms. When principals

communicate a positive vision for the future of the school and encourage collective commitment, teachers are more likely to experience enthusiasm and intrinsic motivation.

The finding that individualized consideration significantly predicted job motivation is equally important. Individualized consideration reflects a leader's willingness to recognize individual needs, provide personal support, and facilitate professional development (4). Teachers who receive personalized attention from school principals may perceive greater organizational support, experience stronger professional efficacy, and feel more valued within the organization. These perceptions are likely to enhance motivation by strengthening teachers' sense of competence and belonging. The significance of individualized consideration therefore underscores the importance of relational leadership practices in educational contexts.

This finding is supported by previous studies demonstrating the motivational benefits of supportive leadership. Rabiei Faradonbeh and colleagues found that transformational leadership positively influenced teachers' work engagement, partly through psychological mechanisms that enhance creativity and professional involvement (16). Likewise, Eskandarpour and Ahmadi reported that transformational leadership contributed to higher levels of work engagement by encouraging organizational voice and participation among teachers (17). These studies suggest that leadership practices characterized by respect, support, and empowerment foster positive psychological experiences that ultimately strengthen motivation.

Idealized influence also emerged as a significant predictor of job motivation. This result indicates that teachers are motivated by principals who demonstrate ethical conduct, integrity, professionalism, and commitment to organizational values. Transformational leaders who serve as role models establish credibility and trust, thereby creating conditions that encourage teachers to align their efforts with organizational goals (4). Within schools, ethical leadership may be particularly influential because educational organizations rely heavily on trust, collaboration, and shared values. When principals consistently demonstrate integrity and commitment, teachers may become more motivated to contribute positively to the school community.

Interestingly, intellectual stimulation did not emerge as a statistically significant predictor in the regression model despite its significant bivariate correlation with job motivation. This finding suggests that although encouraging creativity and innovative thinking may contribute to motivation, its unique predictive influence becomes less pronounced when other transformational leadership dimensions are considered simultaneously. One possible explanation is that teachers may prioritize emotional support, recognition, and inspirational guidance over intellectual challenges when evaluating factors that influence their motivation. Another possibility is that the effects of intellectual stimulation are indirectly reflected through other dimensions such as inspirational motivation and individualized consideration. Similar patterns have occasionally been reported in leadership research, where certain transformational leadership dimensions demonstrate stronger motivational effects than others depending on contextual characteristics (5, 9).

A particularly noteworthy finding was the mediating role of organizational climate. The results demonstrated that transformational leadership exerted both direct and indirect effects on teachers' job motivation through organizational climate. Furthermore, the reduction in the direct effect after introducing the mediator indicated partial mediation. This finding suggests that transformational school principals enhance teacher motivation not only through their direct interactions with teachers but also by shaping the broader organizational environment in which teachers work. Principals who promote collaboration, trust, communication, and shared purpose contribute to the development of positive school climates that support motivational processes.

This finding is consistent with contemporary educational leadership theories emphasizing the importance of organizational context in explaining leadership effectiveness (1, 2). Transformational leaders influence organizational outcomes partly because they shape collective norms, values, and expectations that guide behavior within the organization. Positive organizational climates may enhance teachers' perceptions of support, fairness, participation, and professional respect, all of

which contribute to higher levels of motivation. The mediating role identified in this study therefore provides a more nuanced understanding of how transformational leadership operates within educational settings.

The findings also have broader implications for educational policy and school improvement efforts. UNESCO has repeatedly emphasized the importance of effective educational leadership in achieving sustainable educational development and improving teaching quality worldwide (3). The present study supports this perspective by demonstrating that leadership practices capable of fostering motivation may contribute substantially to teacher effectiveness and organizational success. Given the central role of teachers in educational systems, interventions aimed at strengthening transformational leadership competencies among school principals may yield significant benefits for both educators and students.

The findings are also consistent with recent evidence from Iran indicating that transformational leadership contributes positively to teacher performance, engagement, and organizational effectiveness (15, 18). Collectively, these studies suggest that transformational leadership represents a particularly relevant and effective leadership approach for contemporary Iranian schools. As educational institutions continue to confront increasing complexity and changing expectations, leadership strategies that inspire commitment, support professional growth, and create positive organizational climates may become increasingly important.

One limitation of the present study concerns its reliance on self-report questionnaires, which may be influenced by social desirability bias and respondents' subjective perceptions. Although the instruments demonstrated strong validity and reliability, common-method variance cannot be entirely excluded. In addition, the cross-sectional design limits the ability to establish causal relationships among the variables. Another limitation relates to the use of simulated data to supplement the real dataset. While validation analyses indicated that the simulated observations adequately preserved the statistical properties of the original data, future studies based entirely on larger real-world samples would provide stronger evidence. Finally, the study was conducted within lower secondary schools in Tehran, which may limit the generalizability of the findings to other educational levels or geographical regions.

Future research should employ longitudinal and experimental designs to examine causal relationships between transformational leadership and teacher motivation over time. Researchers may also investigate additional mediating and moderating variables, such as organizational commitment, teacher self-efficacy, psychological empowerment, professional identity, and school culture. Comparative studies across educational levels, regions, and cultural contexts would further enhance understanding of how leadership influences motivation under different conditions. Moreover, qualitative and mixed-methods approaches could provide deeper insights into teachers' lived experiences of transformational leadership and the mechanisms through which leadership practices shape motivational outcomes.

From a practical perspective, educational authorities should prioritize the development of transformational leadership competencies among school principals through targeted training programs and professional development initiatives. School leaders should be encouraged to communicate inspiring visions, recognize individual teacher needs, provide meaningful professional support, and foster collaborative organizational environments. Educational policymakers may also consider incorporating transformational leadership competencies into principal selection and evaluation systems. Furthermore, efforts to improve school climate, strengthen professional relationships, and promote teacher participation in decision-making processes may contribute substantially to enhancing teacher motivation and overall school effectiveness.

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Authors' Contributions

All authors equally contributed to this study.

Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

All ethical principles were adhered in conducting and writing this article.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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