Leadership and Teacher Motivation: A Comparative Analyses on Different Types and Levels of Leadership in Schools

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Abstract

This research aims to analyze how school principal leadership styles and teacher classroom leadership affect teachers' professional motivation within a holistic framework by addressing leadership at both the school- and classroom-level. With this end in mind, we have employed a SEM to analyze the correlations between principals' leadership styles, teacher classroom leadership, and teacher motivation. The study's sample group consisted of 325 teachers employed in primary education institutions. The *Leadership Style Scale, Teacher Classroom Leadership Scale,* and *Teacher Professional Motivation Scale* were used to collect data. We found that although teachers' classroom leadership levels were higher than principals' leadership levels, principals' leadership had a higher direct impact on teacher motivation than did teacher classroom leadership and that quality interaction both in school and in the classroom is the single most influential component on teacher classroom leadership and motivation. Our findings suggest that the primary determinant of teacher classroom leadership and motivation lies in the quality of interactions within both the school and classroom environments. These results underscore the significance of principals' leadership roles in current scholarly discussions on shared leadership in educational settings and on the conceptualization of teacher leadership. Consequently, sharing leadership does not diminish its impact but rather amplifies it. Nevertheless, while promoting shared leadership and empowering teachers are indeed virtuous endeavors in and of themselves, principal leadership is one of the most influential factors affecting teacher motivation.

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Introduction

Features of leadership include the ability to influence the group, cooperating with others, gathering a group of people around a single objective and mobilizing them to work toward that objective, directing people through hard and soft means, and marshaling individuals' innate capabilities in order to realize goals (Bass, 1985; Eren, 2004; Owen, Hodgson, & Gazzard, 2011). The common point among all of these features is influencing and mobilizing others. Motivation is defined as a mobilizing and propelling force (Ryan & Deci, 2000). As a result, there is a close causal relation between the concepts of leadership and motivation. This being the case, the ability to boost employees' motivation is considered a fundamental skill for leaders in their efforts to realize organizational objectives.

Although leadership approaches in the field of educational administration address leadership in a principle-centered manner, different contexts and levels of leadership in schools (e.g., teacher leadership, student leadership, parent leadership) have also received increasing attention over the last 30 years. According to Yukl (2013), ongoing discussions on distributed and shared leadership have yet to be synthesized into a holistic theoretical framework and, consequently, require further research. Addressing two separate tiers of leadership in schools (i.e., principal and teacher leadership), this study comparatively examines the how these two leadership styles influence teacher motivation.

Leadership in Schools

Since traditional leadership studies have generally address in-school leadership from a principal-centered approach, principal leadership has also subject to a wide range of studies that have investigated it within the scope of instructional leadership, transformational leadership, democratic leadership, visionary leadership, and moral leadership (Bass & Avolio, 1993; Hallinger, 2003, 2005, 2010; Starratt, 1995; Yukl, 2013). Leadership studies focusing on these types of leadership styles continue to receive the most attention by educational administration researchers. In fact, as it pertains to school administrators, transformational leadership is one of the most frequently studied subjects within the literature on educational administration (Barnett ve McCormick, 2003; Eliophotou-Menon ve Ioannou, 2016; Fernet, 2011). The concept of transformational leadership, first used by Downton and further developed by Burns, focuses on realizing the goals of an organization, augmenting individuals' sense of belonging to an organization, and enhancing individuals' capabilities (Bass & Avolio, 1994). Bass and Riggio (2006) define transformational leadership as a form of leadership that supports followers' growth, offers them guidance, stresses intrinsic motivation, and encourages them to high performance.

Democratic leadership is another leadership style integral in school improvement (Harris & Chapman, 2002; Peker, İnandı, & Giliç, 2018; Szeto, 2020). According to Woods (2004), while often associated with shared leadership in the literature, democratic leadership is posited to have a more profound impact on educational institutions than distributed leadership. This assertion is grounded in its emphasis on the participation rights of all individuals and respect for every stakeholder. In educational contexts, democratic leadership entails the shared responsibility for management and development among relevant stakeholders and focuses on institutionalizing democratic practices (Pažur, 2020; Yukl, 2013). Addressing how to strengthen democracy in school and education, Woods (2005) asserts that democratic leadership seeks to contribute to individuals' growth and an organization's culture. Pažur (2020) also asserts that democratic leadership in schools emphasizes participation, idea-sharing, and the cultivation of an environment conducive to honesty, openness, and flexibility. Liggett (2020) further delineates democratic leadership into four fundamental dimensions: (i) intra-institutional solidarity to enhance cooperation, (ii) a culture of collaboration fostering mutual trust, (iii) confidence-building for positive relationships, and (iv) an environment supportive of the teaching process.

As a result, modern approaches have subjected the concept of leadership and sharing power to multifaceted discussion. The last 30 years in particular have witnessed the emergence of approaches defining leadership not as a hierarchal power accumulated in the personae of school administrators, but as the sharing of this power with teachers and students. In parallel with research revealing how sharing leadership among teachers benefits school development and performance (Leithwood, Louis, Anderson, & Wahlstrom, 2004; Printy & Marks, 2006), an extensive corpus of literature seeking to produce conceptual and practical definitions for teacher leadership has accumulated (Beycioğlu & Aslan, 2012; Karabağ-Köse, 2019; Wenner & Campbell, 2017; York-Barr & Duke 2004). In the most general sense, teacher leadership is defined as being a leader to the entire school community, including primarily students and colleagues, by sharing in-school leadership responsibilities (Harris & Muijs, 2005; Katzenmeyer & Moller, 2009). Identifying an extensive number of leadership roles held by teachers, Barth (2001) discusses the various roles and responsibly of teachers, which include preparing curriculum, determining behavior criteria for students, adopting inclusive education strategies, supporting colleagues' professional and personal development, and both determining and executing educational policies.

Approaches addressing teacher leadership at the classroom level have attracted particular attention in recent years. Such approaches assess how teacher leadership is exercised in a more specific arena, namely, at the classroom level, as it is their primary area of responsibility (Ertesvåg, 2009; Pounder, 2014; Karabağ-Köse, 2019). These studies tend to interpret leadership theories like teachers' leadership styles (Cheng, 1994) or transformational classroom leadership (Pounder, 2014) at the classroom level. Conceptualized as teacher classroom leadership, this particular approach assesses teacher-student relationships in a multidimensional manner that takes into account both in-school and out-of-school processes (Ertesvåg, 2009; Karabağ-Köse, 2019). Accordingly, the teachers are classroom leaders who go beyond basic curriculum responsibilities. Their influence spreads far beyond the classroom and the education period, penetrating and influencing all aspects of life. They constitute a concrete example of leadership as a role model and play a leading role in training new leaders.

Research examining the relationships between different styles and levels of leadership in schools reveals that principal leadership is an important determinant of teacher leadership. Principals' leadership behaviors have been found to affect various dimensions of teacher leadership, such as communicating the espoused learning vision, supporting teachers' professional development, improving curricula and instruction, and enhancing the teaching environment (Pan & Chen, 2021). Similarly, Kurt (2016) asserts that distributed leadership is an important predictor of both institutional and professional development in teachers. These studies highlight the role of principals, who serve as both the formal and natural center of power within the school and are often regarded as the leader of leaders (Leithwood et al., 2007), in sharing leadership responsibilities with teachers. Furthermore, in their study comparing the leadership of school principals with that of teachers, Pan and Chen (2021) found that teacher leadership influenced their own learning processes more than principal leadership did. A similar comparative study by Li and Liu (2022) likewise found that while principal leadership significantly impacted teacher leadership, it did not have a direct impact on student performance. Comparing the effects of both principals' and teachers' leadership on student and teacher outcomes, these findings add valuable nuance to the discussion on how both forms of leadership affect teacher motivation. The current study is expected to contribute uniquely to the literature in this regard.

Correlations between Leadership and Motivation

School principals' leadership styles constitute an area of research on which extensive literature discussing the relationships between performance, affiliation, burnout, culture, and other similar variables has been composed (Aydın, Sarıer, & Uysal, 2013; Hallinger, Hosseingholizadeh, Hashemi, & Kosari, 2018; Imhangbe, Okecha, & Obozuwa, 2019; Rizvi, 2008; Terzi ve Kurt, 2005; Tesfaw, 2014). A considerable number of studies discussing the relationship between in-school leadership and motivation exist within the literature on education (Leithwood, Steinbach, & Jantzi, 2002; Leithwood & Jantzi, 2006; Thoonen, Sleegers, Oort, Peetsma, & Geijsel, 2011). These studies have produced empirical

evidence demonstrating that school administrators' leadership behaviors influence teacher and student motivation (Davis & Wilson, 2000; Eliophotou-Menon & Ioannou, 2016; Ereş, 2011; Eyal & Roth, 2011; Finnigan, 2010; Kocabaş & Karaköse, 2005; Renchler, 1992; Thoonen et al., 2011). On the other hand, numerous institutional and personal factors influence teacher motivation, including the school and classroom environment, professional prestige, and self-confidence. Among these, interactions with school administrators and colleagues are significant factors affecting teacher motivation (Börü, 2018; İpek & Kanatlar, 2018; Karabağ-Köse, Karataş, Küçükçene, & Taş, 2020). We therefore argue that the relationship between leadership and motivation holds a position of primacy in both motivation-focused and leadership research.

Motivation theories, spanning from Maslow's Hierarchy of Needs Theory (1943) to Herzberg's Two-Factor Theory (Herzberg, Mausner, & Snyderman, 1959), and from Vroom's Expectancy Theory (1964) to Ryan and Deci's Self-Determination Theory (2017), offer diverse perspectives on human motivation. These theories contribute to our understanding of motivation sources. Whether in the literature on leadership in general or on educational leadership in specific, the impact of leadership styles on motivation remains a focal point of research across various cultures and institutional contexts. This is particularly evident in studies examining Self-Determination Theory (Collie, 2023; Slemp, Kern, Patrick, & Ryan, 2018; Wu, Zhang, Liu, & Liang, 2023).

Having conducted an extensive meta-analysis on the relationship between leadership and motivation, Slemp et al. (2018) found that autonomy-supportive leadership is strongly and positively related to autonomous work motivation and unrelated to controlled work motivation. In his research, Collie (2023) revealed teachers' perceptions of leadership practices to be related to motivation factors. Accordingly, while leadership practices supporting teacher autonomy are positively associated with self-determined motivation and amotivation, leadership that hinders autonomy is positively associated with external regulation and amotivation. Similarly, several studies have found that while democratic leadership bolsters intrinsic motivation, autocratic leadership reinforces extrinsic motivation (Yalçınkaya, Dağlı, Altınay, Altınay, & Kalkan, 2021). Bektaş, Kılınç, and Gümüş (2022) also found positive distributed leadership to have a significant impact on teacher work motivation.

Principals' leadership styles and behaviors have the potential to have both a positive and negative effect on teacher motivation. Indeed, studies have found that autocratic leadership, transactional leadership, and laissez-faire leadership have detrimental effects on teacher motivation (Barnett & McCormick, 2003; Eyal & Roth, 2011). On the other hand, however, both transformational and democratic leadership have been shown to have a positive influence on teacher motivation (Eyal & Roth, 2011; Finnigan, 2010; Leithwood & Jantzi, 2006; Thoonen et al., 2011). At the sub-dimension level, research indicates that the vision creation, intellectual stimulation, and individual attention aspects of transformational leadership directly contribute to increased teacher motivation (Geijsel, Sleegers, Leithwood, & Jantzi, 2003; Leithwood & Jantzi, 2005).

This and similar studies are significant in uncovering the effects of various leadership styles on distinct types of motivation, including extrinsic and intrinsic motivation. Moreover, beyond widely accepted theoretical frameworks like Self-Determination Theory, diverse classifications of motivation can be employed in studies examining the motivational drivers influencing individuals' choice to pursue teaching as a profession. In this regard, intrinsic values, learning and teaching experiences (Tünkler, 2021), personal abilities, job security, and work-life balance (Watt & Richardson, 2007), as well as personal, social, and socioeconomic factors (Alam & Farid, 2011), have been identified as powerful sources of motivation. Additionally, diverse motivation sources such as physical opportunities, professional development, and prestige (Karabağ-Köse et al., 2020), as well as managerial roles, career advancement, and interpersonal relationships (Sajid, Rana, & Tahir, 2018), have been cited. Consequently, we anticipate that this study will contribute to the literature by comparing the impacts of different types and levels of leadership—particularly diverse principal and teacher leadership styles within schools—within the unique motivational dynamics of the teaching profession.

Conceptual Model

This study focuses on, among other main variables, principals' leadership behaviors. Additionally, it acknowledges the significant impact that administrators' leadership behaviors have on teacher motivation (Davis & Wilson, 2000; Eliophotou-Menon & Ioannou, 2016; Ereş, 2011; Eyal & Roth, 2011). Two leadership variables are examined in this study: transformational leadership and democratic leadership. Empirical studies have demonstrated the positive effects of these leadership styles on teacher motivation and school procedures. Transformational leadership, widely accepted and extensively studied in the context of school effectiveness, is defined by Bass and Avolio's (1995) four-dimensional model. This model, in addition to serving as the theoretical foundation of the current research, evaluates transformational leadership across four sub-dimensions: charismatic influence, intellectual stimulation, inspiration, and individualized support. Democratic leadership, yet another influential model in the context of school effectiveness, embodies a participative leadership approach where power is dispersed from the center outward. This study draws on Liggett's (2020) four-dimensional conceptualization of democratic leadership predicated on solidarity, cooperation, trust, and support. The primary hypothesis posited in this study is that both transformational and democratic leadership will have a positive impact on teacher classroom leadership and motivation.

The second fundamental variable of the study pertains to the concept of teacher leadership. The concept of teacher leadership creates new and powerful arenas both in and out of the classroom in which teachers are able to exercise their initiative (Katzenmeyer & Moller, 2009). We have grounded this study in the framework outlined by Karabağ-Köse (2018) that defines teacher classroom leadership through interaction, in-class processes, and out-of-school processes. This study concentrates on how this arena unfolds in a classroom setting and on how it affects teacher motivation. In this vein, the second hypothesis posited in this study asserts that heightened teacher initiative correlates positively with professional motivation. Hence, the study scrutinizes the influence of a teacher leadership within their primary sphere of responsibility, the classroom, on their motivation. Teacher classroom leadership is also characterized as a mediating variable in the study. Consequently, the third hypothesis posits that the leadership behaviors of school administrators both affect teacher motivation and, through teacher classroom leadership, indirectly. Within the scope of this study, teacher motivation serves as the outcome variable, wherein both the direct and indirect effects of principals' and teachers' leadership are evaluated. Drawing upon the sub-dimensions of teacher professional motivation delineated by Karabağ-Köse et al. (2020), this study contextualizes teacher motivation within the context of its distinct institutional processes.

As conceptual frameworks have discussed and subsequently established the influence of school administrators' leadership behaviors on teacher motivation, we have designed the hypothetical conceptual model (Figure 1) to examine the direct effects of school administrators' leadership behaviors on teacher motivation and, through the mediation of teacher classroom leadership, its indirect effects on the same variable.
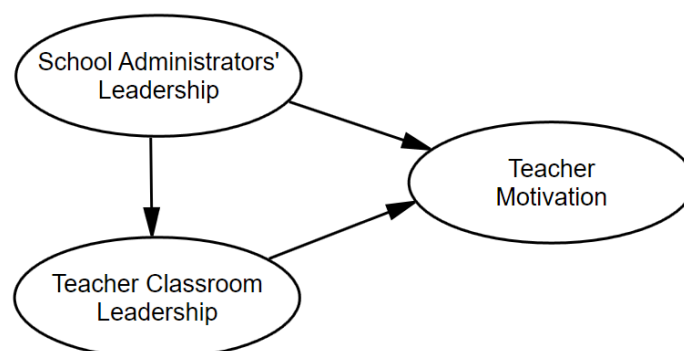

Figure 1. Conceptual Model of the Research

We expect that following a multilevel approach to examine the in-school leadership will make original contributions to relevant conceptual discussions and policy applications. Considering the importance of teacher motivation in affecting school outcomes (Ada, Akan, Ayık, Yıldırım, & Yalçın, 2014; Ames & Ames, 1984; Anderson & Iwanicki, 1984; Frase & Sorenson, 1992; Jesus & Lens, 2005), researchers are faced with the fundamental problem of how best to structure in-school leadership. We strive to offer empirical evidence aimed at enhancing discussions surrounding teacher leadership and the concept of shared leadership within schools, which serves as the foundation for understanding teacher leadership. To this end, this study seeks to examine the relationship between school administrators' leadership styles and teachers' classroom leadership practices, on one hand, and teacher motivation, on the other. With this in mind, answers to the following questions were sought:

1. Are there any significant correlations between school administrators' leadership styles, teachers' classroom leadership, and teacher motivation?

2. Are school administrators' leadership styles and teachers' classroom leadership a significant predictor of teacher motivation?

3. Is teacher leadership a mediator variable in the relationship between school administrators' leadership styles and teacher motivation?

Method

In its endeavor to investigate correlations between school administrators' leadership styles, teacher leadership, and teacher motivation, this study employs a relational survey model in its analysis of relevant teachers' opinions.

Population and Sample

The population consists of middle school teachers employed in state schools located in the center of Çorum, Turkey. Of this population, a total of 325 teachers were selected through random sampling. Of these original 325 teachers, data for 305 of these teachers were subject to analysis following a series of tests. Broken down by gender, 163 (53.4%) were female and 141 (46.4%) were male. With regard to seniority, whereas 71 (23.3%) had from zero to five years of teaching experience, 82 (26.9%) from six to ten years, 88 (28.9%) from eleven to fifteen, and 62 (20.3%) sixteen or more. Of the entirety of teachers participating in the study, 276 (92.3%) had earned their bachelor's degree and 23 (7.7%) had received some sort of graduate degree.

Data Collection Instruments

Three data collection instruments were used in this study, namely, the *Leadership Style Scale*, *Teacher Classroom Leadership Scale*, and *Teacher Professional Motivation Scale*.

Developed by Taş, Çelik, and Tomul (2007), the Leadership Style Scale (LSS) is composed of five subscales, namely, autocratic leadership, democratic leadership, laissez-faire leadership, transformational leadership, and transactional leadership. Only two of these subscales (i.e., democratic leadership and transactional transformational leadership) were used in this study. Our reason for including these two subscales is because democratic and transformational leadership have among the highest positive impact on motivation (Berkovich & Eyal, 2017; Caillier, 2020; Wiyono, 2018). Cronbach's internal consistency coefficients were calculated as .92 for democratic leadership and .93 for transformational leadership. Since we were unable to find an original study that analyzed the scale's construct validity, we conducted our own CFA on the two factors to test construct validity and found that the two-factor structure of the scale exhibits excellent fit ($\chi 2/sd$=1.57, RMSEA=.05, GFI=.96, AGFI=.96, CFI=.91).

Developed by Karabağ-Köse (2018), the Teacher Classroom Leadership Scale-Teacher Form (TCLS-TF) is a three-factor structure (i.e., interactions, in-class processes, and out-of-school processes). The scale's construct validity was tested by the author herself, who found the relevant values to be within an acceptable threshold ($\chi 2/sd$=2.81; RMSEA=.07; GFI=.87; CFI=.92). In the current study, we found alpha internal consistency values of .93, .91, and .86, respectively, for the three subscales.

Developed by Karabağ-Köse et al. (2020), the 25-item Teacher Professional Motivation Scale is composed of four subscales, namely, in-school factors, out-of-school factors, professional development and respectability, and physical facilities. The scale's developers obtained acceptable construct validity coefficient values for both the paper-and-pencil version (X²/sd=2.17; RMSEA=.06; GFI=.86; AGFI=.82; CFI=.90; and NFI=.83) and for the online version (X²/sd=4.95; RMSEA=.07; GFI=.88; AGFI=.85; CFI=.93; and NFI=.91). Likewise, the current study found internal coefficient values of .92, .83, .77, and .78, respectively, for the subscales.

Data Analysis

Both SPSS and AMOS were used to analyze the data obtained in this study. During this process, we formally assessed the data entered into the programs, corrected erroneous entries, and imputed values for missing data using the EM algorithm. After eliminating 11 pieces of data that had been incorrectly completed, we checked the basic assumptions for data, like normality, homogeneity, and linearity. According to the univariate and multivariate normality analyses conducted to assess the data set's suitability for analysis, we excluded nine additional data points from the evaluation. We observed the z-scores to exhibit a normal distribution within the range of +2 to -2 (Tabachnick & Fidell, 2007). During the next step, we performed correlation, linear regression, and structural regression analyses. We then examined the internal consistency values and conducted a CFA to assess the validity and reliability of data collection instruments. For model fit, we analyzed the χ2/sd, RMSEA, GFI, AGFI, and CFI values for the scale (Gefen, Straub ve Boudreau, 2000; McDonald ve Ho, 2002).

Findings

This section presents the study's findings. Table 1 illustrates Pearson's correlation coefficient and both arithmetic means and standard deviation scores were calculated for each scale and subscale.

Table 1. Descriptive Statistics and Correlation Results for Variables

	1	1.1.	1.2.	2	2.1	2.2.	2.3	3.	3.1.	3.2.	3.3.	3.4.
1. Leadership	1	.965*	.978*	.447*	.441*	.411*	.355*	.637*	.505*	.687*	.406*	.447*
1.1. Democratic Leadership		1	.890*	.437*	.438*	.395*	.341*	.612*	.484*	.670*	.385*	.424*
1.2. Transformational Leadership			1	.432*	.421*	.403*	.348*	.626*	.498*	.666*	.403*	.443*
2. Teacher Classroom Leadership				1	.957*	.865*	.896*	.537*	.325*	.545*	.367*	.505*
2.1. Student Interaction					1	.743*	.782*	.508*	.306*	.526*	.346*	.467*
2.2. Out-of-School Processes						1	.701*	.464*	.281*	.459*	.316*	.468*
2.3. In-Class Processes							1	.491*	.301*	.489*	.339*	.453*
3. Teacher Motivation								1	.748*	.845*	.831*	.804*
3.1. Physical Facilities									1	.593*	.474*	.590*
3.2. In-School Factors										1	.496*	.614*
3.3. Out-of-School Factors											1	.577*
3.4. Professional Development and respectability												1
Mean	3.75	3.80	3.71	4.15	4.21	4.02	4.13	3.73	3.91	4.01	3.29	3.66
Standard Deviation	0.77	0.75	0.82	0.54	0.55	0.66	0.62	0.57	0.64	0.62	0.83	0.69
Kurtosis	-0.69	-0.74	-0.67	-0.63	-0.57	-0.56	-0.84	-0.51	-0.97	-1.01	-0.29	-0.54
Skewness	0.45	0.93	0.13	0.91	0.44	0.45	1.11	0.37	2.05	1.26	-0.60	0.21

*p< .001; N =305

Table 1 reveals that teachers perceive principals' leadership behaviors ($\overline{X}$=3.75), teacher classroom leadership ($\overline{X}$=4.15), and teacher motivation ($\overline{X}$=3.73) to be high. The correlation analysis indicated there to be a high, positive, and significant correlation between principals' leadership styles and teacher classroom leadership (r=.44; p<.001), between principals' leadership style and teacher

motivation (r=.63; p<.001), and between teacher classroom leadership and teacher motivation (r=.53; p<.001).

We conducted a linear regression analysis to assess the impact of the study's independent variables, principal leadership and teacher classroom leadership, on teacher motivation, the results of which are presented in Table 2.

Table 2. Results of Regression Analysis between Variables

Dependent Variables	Independent Variables	B	Standard Error	β	t	p	Collinearity	
							Tol.	VIF
Teacher Motivation	(Constant)	.967	.186		5.205	.000	-	-
	School Principal's Leadership	.370	.034	.497	10.772	.000	.80	1.25
	Teacher Classroom Leadership	.331	.048	.315	6.824	.000	.80	1.25

R=.70; R^2=.49; $F_{(302. 2)}$=142.550; p=.000; Durbin-Watson: 1.971

Table 2 reveals that principal leadership (β=.49; p<.05) and teacher classroom leadership (β=.31; p<.05) are statistically significant predictors of teacher motivation. Upon analyzing the joint effect of these two leadership variables on teacher motivation, we find that both of the independent variables explain teacher motivation very well (R^2=.49).

To test the hypothetical conceptual model, we employed a structural regression (SR) model that identifies the direct and indirect relationships between the variables. Figure 2 depicts the standardized regression coefficients for the SR analysis.
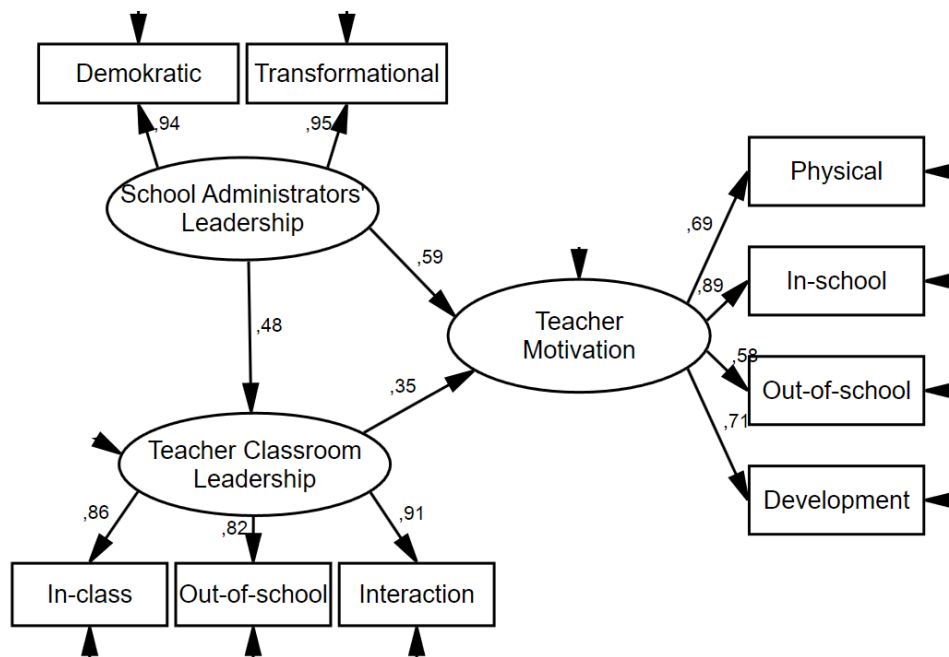

Figure 2. Structural Regression Model

As illustrated in Figure 2, the SEM shows that principals' leadership behaviors have both a direct impact and, through the mediation of teacher classroom leadership, an indirect impact on teacher motivation. More specifically, principals' leadership was found to have a direct impact of .59 and an indirect impact of .48*.35=.17 on teacher motivation. Fit indices for the model in question were exceptionally good [$\chi2$/sd=2.61, RMSEA=.07, GFI=.96; AGFI=.93; CFI=.98; NFI=.97]. Upon examination of the predictive power of both *teacher classroom leadership* and *teacher motivation*, we found that *interaction* was the greatest predictor of both variables (.91; .89).

Discussion

Undertaking leadership in schools on two different levels, this study has endeavored to comparatively analyze how teacher and principal leadership affects teacher motivation. Since school administrators are the highest representative of legal authority in schools, leadership skills are considered to be the most essential type of skills for principals (Bursalıoğlu, 2010; Hoy & Miskel, 2012; Şahin, 2000). In relation to this, theoretical studies in the field of educational leadership have focused primarily on school administrators' leadership (Karabağ-Köse, 2019). On the other hand, while not yet fully theorized (Yukl, 2013), academic discourse surrounding shared leadership is progressively garnering the interest of researchers. Within this context, the current study explores the associations between school principals' leadership styles and teachers' classroom leadership, as well as teacher motivation within schools, utilizing a structural equation model.

Our findings on the correlations between the study's variables reveal that there is a strong, positive, and significant correlation between principals' leadership styles and teachers' classroom leadership, between principals' leadership styles and teacher motivation, and between teachers' classroom leadership and teacher motivation. Administrators' behaviors play an important role in employee motivation (Gagné & Deci, 2005). Eyal and Roth (2011) found that transformational leaders support and strengthen their employees' abilities and instill in them a sense of mission. Many studies in the literature provide empirical evidence that school principals' adoption of transformational leadership has a significant impact on teachers' motivation (Eyal & Roth, 2011; Finnigan, 2010; Thoonen et al., 2011). Buluç (2009) asserts that transformational leadership behaviors in principals increase overall productivity by positively influencing staff members and will direct them toward realize the objectives of the organization.

Another finding by researchers is that there is a high, positive, and significant correlation between principals' leadership styles and teacher leadership. Louis, Dretzke, and Wahlstrom (2010) found that teachers' working relationships were strong and student performance was higher when leadership was shared between the principal and teachers. Leader teachers take up a variety of roles, like being a mentor, coach, trainer, specialist, counselor, and facilitator in both their colleagues' and students' in-school education and personal development (York-Barr & Duke, 2004). Teachers whose display of leadership behaviors is supported feel increased levels of professional satisfaction and motivation, which allows them to perform better (Katzenmeyer & Moller, 2009). The findings of the current study support the literature in this regard. Since strengthening teachers' ability to take greater initiative at the classroom level will have a positive impact on their professional motivation, it is recommended that teachers receive support in this vein.

The most important finding of this study, however, is that both principal and teacher leadership have direct and indirect effects on teacher motivation. Although the results of our descriptive analysis found principals' leadership levels to be lower than teachers' classroom leadership levels, the SEM constructed to analyze variables reveals that principals' leadership has a greater direct effect on teacher motivation than does teachers' classroom leadership. Principals' leadership is important not only because of its direct and substantial impact on teacher motivation but also because of its indirect effects on teacher classroom leadership. Accordingly, despite current the high amplitude of discussions on sharing and distributing leadership, principals continue to retain their centrality and dominant role as leaders in schools. Upon examining empirical studies that compare the effects of both principal and teacher leadership on students and teachers, it becomes apparent that, contrary to the findings of the current research, teacher leadership exhibits a stronger influence on teacher learning (Pan & Chen, 2021) and student performance (Li & Liu, 2022) than does principal leadership. This suggests that teacher leadership may be more impactful in yielding specific and tangible outcomes, such as student performance and teacher learning. In contrast, however, principal leadership may hold greater significance in identifying outcomes that have a more emotional impact on teachers, such as motivation.

Another noteworthy finding is that teacher classroom leadership has a strong and significant impact on teacher motivation. This finding demonstrates the critical importance of continuing discussions on how sharing leadership actually supports principal leadership. Given the sway that school administrators' strong democratic and transformational behaviors has over teachers' classroom leadership practices, it is possible to associate strong leadership with the creation of an arena in which subordinates are able to act out their own leadership roles. To put it differently, *a* principal's effectiveness as a leader is contingent upon their capacity to cultivate an environment where teachers can unleash their own leadership capabilities," as described by Leithwood et al. (2007) as the "leader of leaders. Comparing the impact that both principal and teacher leadership have on the teacher learning, Pan and Chen (2021) underscore the significance of teacher leadership as a moderating variable in teacher learning. They found that the effects of principals' leadership behaviors on teachers are enhanced through teacher leadership. Accordingly, it can be said that strengthening teachers' leadership initiatives will produce positive results for their profession. Therefore, it is important that not only school principals but also teachers are supported in developing their leadership skills. The current study, likewise, found that teacher leadership exerted significantly important influence over teacher motivation as a moderator. These findings underscore the significance of teacher leadership as a moderating variable in various contexts. It is therefore crucial to support the development of leadership skills not only among school administrators but also among teachers themselves.

Another consequence that can be drawn from these discussions is that the leadership of the school principal has a higher impact on professional motivation than teacher classroom leadership. This can be interpreted as teacher motivation being more sensitive to external factors than to teachers' own internal dynamics. As asserted in Self-Determination Theory (Ryan & Deci, 2017), a teacher's motivation that is more supported by their own leadership elements may be less sensitive to external factors while being stronger, more stable, and sustainable. Therefore, this result indicates the need for policymakers to enhance leadership initiatives and review the education and training processes for teachers to strengthen their leadership skills for better motivation. In this context, it is important that leadership styles that encourage teacher participation, such as democratic leadership, are highlighted as one of the most effective factors on teacher motivation. This is compatible with research findings (Demir, 2023) that reveal the positive effects of teacher autonomy on all processes of teacher motivation in and out of school.

Another important finding of the study pertains to the effects that in-school and in-class interactions have on teachers. Indeed, subscales related to *interaction* are the most important predictors of teachers' classroom leadership and of teacher motivation. The findings demonstrate the importance of both in-class and school-level interactions in which teachers engage. Recent studies corroborating this finding offer theoretical and empirical justification that in-school and in-class interactions have a wide range of positive ramifications on numerous components, including teacher leadership, education effectiveness, social justice in schools, and the inclusion of disadvantaged students (Llinares & Evnitskaya, 2020; Ortega et al., 2020; Szeto & Cheng, 2018; Tsai & Scott, 2020).

It is important to highlight certain original findings of our research and to acknowledge some of its limitations. While there exist numerous sources and styles of leadership within schools, we focused solely on the transformational and democratic leadership of principals, along with the classroom leadership of teachers. Furthermore, we examined teacher motivation within the context of motivation sources in educational processes. Lastly, although the research variables span two different levels—the school principal and teacher levels—the fact that measurements were solely based on teacher perceptions and conducted at a single level is another limitation. Consequently, the research findings and recommendations should be interpreted with these limitations in mind.

Conclusions and Recommendations

This research has concluded there to be a strong interaction between school administrators' leadership styles and teachers' leadership levels. Principals' democratic and transformational leadership behaviors create an arena for teachers to exercise their own leadership. Furthermore, principals' leadership styles have both a direct and indirect impact on teacher motivation. We have found that in addition to principals' leadership, teachers' classroom leadership level positively affects their motivation. Consequently, strong democratic and transformational leadership behaviors in principals and strong classroom leadership in teachers emerges as an important area of policy in increasing teachers' professional motivation. Sharing leadership does not reduce its potency; rather, it works to amplify it. However, while sharing leadership in schools is certainly important, it is equally essential that further discussion on principles' in-school leadership not remain in the shadow of discussions on shared leadership. Indeed, sharing leadership and creating an arena for teachers to act as leaders in schools is important; yet, principals' leadership remains the most potent factor affecting teacher motivation. Based on this, the interactions in which teachers engage within their schools are the single most important predictor of teacher classroom leadership and motivation.

The following recommendations may be made based on the conclusions of this study:

1. Principals should be encouraged both to embody traits of democratic and transformational leadership and to facilitate an environment where teachers are empowered to exercise their leadership capabilities within schools.

2. Practices that foster robust school and classroom interactions should be prioritized in order to enhance teacher motivation and bolster teacher classroom leadership. Additionally, professional competencies related to communication should be regarded as a strategic priority in teacher selection, training, and professional development.

3. Further research drawing on various motivation theories and exploring school-related motivation sources is warranted in order to evaluate teacher motivation in terms of intrinsic and extrinsic motivation, As such research endeavors can elucidate the relationship between different levels of leadership and specific motivational elements.

4. Given that this study primarily focused on teachers' classroom leadership, future research should delve into the impact of teachers' leadership within administrative processes on their professional motivation. Lastly, future research should aim to incorporate multiple data sources, including administrators, teachers, and parents at both the school and classroom levels to address the aforementioned limitations so as to produce more robust conclusions.

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