Global Social Sciences Review (GSSR) Vol. VIII, No. I (Winter 2023) Pages: 385 – 395
ISSN (Online): 2520-0348 ISSN (Print): 2616-793X ISSN (Linkage): 2520-0348

Cite Us

Unlocking Academic Success: Exploring the Impact of Distributed Leadership on Schools' Climate and Students' Achievement at Secondary Level in District Kohat

Farid Ullah Khan [*] Munir Khan [†] Abdul Wahab [‡]

Corresponding Author: Farid Ullah Khan (Assistant Professor, Department of Education and Psychology, Kohat University of Science & Technology, Kohat, KP, Pakistan.
Email: drfarid@kust.edu.pk)

Abstract: *This study examines the correlation between distributed leadership practices of principals, the academic performance of students, and the school climate in government secondary schools in Kohat, Pakistan. It investigates the relationship between the distributed leadership approach of principals and the school atmosphere, as well as its impact on academic achievement. The research involves 30 principals and 198 teachers who completed surveys on distributed leadership practices and school climate. Descriptive statistics, Pearson correlation coefficient, and regression models were used for data analysis. The study found a significant correlation between the adoption of distributed leadership by principals and the overall school climate. Furthermore, a moderate correlation was observed between students' academic achievements and the distributed leadership approach of the principal. The research suggests that a principal's distributed leadership positively affects school climate and leads to improved student achievement, although it also indicates a negative impact on students' academic performance.*

Key Words: Distributed Leadership, School climate, Students' achievement

Introduction

Education is a vital component of a nation's development, and effective leadership is critical to the success of educational institutions. With the ever-evolving education landscape, effective leadership is crucial to ensure that students receive quality education and achieve academic success. Distributed leadership concept has gained increasing attention in all sectors, especially in the education sector. It has been argued that conventional methods of teaching don't give educators the tools they need to help their pupils become productive citizens. (Hermans, Tondeur, Van Braak, & Valcke, 2008). The common understanding of leadership has always associated it with formal authority (Harris, 2003). Teachers and educational institutions are under increasing pressure to incorporate future-focused skills such as problem-solving, collaboration, and knowledge acquisition into

[*] Assistant Professor, Department of Education and Psychology, Kohat University of Science & Technology, Kohat, KP, Pakistan.
[†] Assistant Professor, Department of Education University of Malakand, Chakdara, KP, Pakistan.
[‡] Lecturer, Department of Education and Psychology, Kohat University of Science & Technology, Kohat, KP, Pakistan.

Citation: Khan, F. U., Khan, M., & Wahid, A. (2023). Unlocking Academic Success: Exploring the Impact of Distributed Leadership on Schools' Climate and Students' Achievement at Secondary Level in District Kohat. *Global Social Sciences Review*, *VIII*(I), 385-395. https://doi.org/10.31703/gssr.2023(VIII-I).35

DOI: 10.31703/gssr.2023(VIII-I).34 **URL:** http://dx.doi.org/10.31703/gssr.2023(VIII-I).35

lesson plans. (Ko, Ma, Bartnik, Haney, & Kang, 2018). The correlation between educational administration and students' achievements highlights the significant impact it has on the indirect facilitation of academic progress among children. (Harris, Leithwood, Day, Sammons, & Hopkins, 2007). Sebastian, Huang, and Allensworth (2017) explain that There are a number of methods by which principals can influence the education of their students. This is a significant distinction regarding the decision-making process. The significance of principals' decisions has increased as their authority has expanded. (Neeleman, 2019). According to (Diamond & Spillane, 2016), the diagnostic model of distributed leadership can be utilized by researchers, educators, and decision-makers in the realm of school leadership and management. There has been a lot of research looking at how this leadership paradigm improves working conditions. (Hallinger, 2011) and achievement of students (Gumus, Bellibas, Esen, & Gumus, 2018); (Seashore Louis, Dretzke, & Wahlstrom, 2010). By analyzing how leadership is "stretched" across the practices of two or more leaders, distributed leadership serves as an example of an effort to rethink the function of leadership in the classroom (Spillane & Camburn, 2006). As a consequence of this expansion of leadership's scope, principals have more opportunities to build teachers' instructional capacity, which increases the number of voices heard during the decision-making process. (Harris et al., 2007); (Klar, 2012); (Leithwood, Louis, Anderson, & Wahlstrom, 2004).

Academic performance is the standard criterion for assessing the effectiveness of a school. (Day, Gu, & Sammons, 2016). Certain academics have focused on institutional factors when examining the factors that impact students' academic achievement. (Heck & Hallinger, 2009); (Oldac & Kondakci, 2020). This inquiry assumes that a student's academic achievement is linked to their institution of enrollment. (Fullan & Watson, 2000). Researchers in the field of educational leadership and management (EDLM) have so far concentrated on analyzing the concrete ways in which effective school leadership influences pupil achievement. (Supovitz, Sirinides, & May, 2010). According to research, efficient school leadership is essential for student achievement. (Hallinger, 2011). In the 1970s and 1980s, researchers endeavoured to comprehend why and how certain institutions were more successful than others. Scholars and researchers propose that focusing on essential educational processes such as instruction, classroom organization, and environment can reveal specific school qualities that positively impact student outcomes. (Pashiardis, 2009). A positive school climate was found to be one of the few essential determinants in improving academic outcomes. (Roueche, Baker III, & Rose, 2014); (Lezotte, 1992) as cited in (Pashiardis, 2009)

Theoretical Framework

According to (Leithwood, Sun, & Schumacker, 2020), principals have identified four channels through which leaders exert their influence on student achievement. This study lays a solid theoretical foundation for future research into the elements that mitigate distributed leadership's effect on student results. In the research of (Leithwood et al., 2020) The present study employed the construct of disciplinary climate, derived from the rational path, which pertains to the favourable or affirmative emotional state that reflects an individual's evaluation of their job. The idea that variables from different paths should be combined into the same measuring model to see their similar relationships with student accomplishment was also tested using work satisfaction, a construct from the emotional path. (Tsevairidou, Matsouka, Tsitskari, Gourgoulis, & Kosta, 2019), hence potentially affecting how teachers go about their work and what they focus on. (Leithwood et al., 2020).

Conceptual Framework

Objectives of the Study

This study determined the following Objectives.

1) To determine the relationship between the distributed leadership approach of principals and the school climate at Secondary School Kohat.
2) To investigate the link between the distributed leadership approach of principals and the academic performance of students at Secondary School Kohat.
3) To discover the association between the school climate and the academic achievements of students at Secondary School Kohat.
4) To analyze the influence of the distributed leadership style of principals on both the school climate and the academic performance of students at Secondary School Kohat.

The Hypothesis of the Study

H_O 1. There is no statistically significant relationship between school climate and students' achievements in a government secondary school in Kohat.

H_O 2. There is no statistically significant relationship between the distributed leadership of a principal and students' achievements in a government secondary school in Kohat.

H_O 3. There is no statistically significant relationship between the distributed leadership of a principal and the school climate in a government secondary school in Kohat.

Research Methodology

To achieve the desired goals, a descriptive and quantitative survey was carried out, coupled with a correlation analysis to extract insights from the participants. The research explored three key factors - Principals' distributed leadership, Schools' climate, and Students' achievement - to gain a holistic understanding of the subject matter.

Population, Sample and Sampling Techniques of the Study

The study includes all 64 secondary schools in the district and their principals and teachers, consisting of 44 male and 20 female educators. The researchers utilized a sophisticated multistage sampling technique to gather the data. In the first stage, a total of 30 secondary schools, 15 each from urban and rural areas, were selected through cluster sampling. In the second stage, a random sampling technique was applied to select 30 principals and 250 teachers for the study. By using this rigorous sampling method, the research aims to provide an accurate representation of the secondary education system in the district and contribute to the ongoing efforts to improve education in the region.

Research Instrument

In this research study, a comprehensive inventory of Distributed Leadership Practices (DLPI) was developed using a Five-Point Likert Scale, comprising six distinct subscales. Vision, values and beliefs, decision-making, cooperation and teamwork, leadership team, and responsibility and accountability are some of these subscales. Additionally, a novel research tool, aimed at assessing the school climate, was created with five sub-scales covering Vision, Mission, and Goals, Organization and Administration, Managing Instructional Programs, Communication and Collaboration, and Teaching and Learning. To evaluate the impact of these leadership practices and school climate on student achievement, the researchers conducted a rigorous analysis of SSC Annual Results from 2020 to 2022, spanning three academic years.

Validity and Reliability of the Instrument

Upon designing the research instrument, a meticulous validation process was executed by seeking expert opinions. Based on their valuable suggestions, the questionnaires were revised and pilot-tested. Upon the conclusion of the pilot testing phase, the data obtained from the respondents were subjected to rigorous statistical analysis. In particular, Cronbach's Alpha coefficient and Pearson correlation coefficient (r) were utilized to assess the instrument's reliability. The results of the analysis yielded a Cronbach's

Alpha coefficient of 0.83 and 0.81 for the distributed leadership of principals' questionnaire and school climate questionnaire, respectively. These findings suggest that the research instrument is both reliable and valid for the intended purpose.

Data Analysis

Following rigorous data analysis, the SPSS Pearson product-moment coefficient of correlation (r) was utilized to achieve the desired outcome. The correlation strength was determined based on the following range of values: $r \geq 0.70$ indicating the highest correlation strength, $0.50 < r < 0.69$ indicating high correlation strength, $0.30 < r < 0.49$ indicating medium correlation strength, and $r\ 0.01 \leq 0.29$ indicating low correlation strength.

Table 1

Association of School Climate Sub-factors with Distributed Leadership Style of Principals

Sub-factors of School Climate	Distributed Leadership	
	r	sig
Administration and Organization	.489**	.005
Mission, goal and Vision	608**	.000
Managing Instructional Program	.607**	.000
Collaboration and communication	.595**	.000
Teacher student Relationship	.578**	.000

Based on the magnitude of the correlation coefficient (r), there are four distinct levels of correlation strength. The strongest ties are indicated by a correlation coefficient of $r > 0.70$. Strong correlations have a coefficient of between 0.50 and 0.69. Medium-strength relationships have a correlation coefficient between 0.30 and 0.49. Finally, a weak correlation coefficient falls between 0.01 and 0.29.**. The correlation between the variables is statistically significant at the 0.01 level with a two-tailed test.

* The correlation is also statistically significant at the 0.05 level with a two-tailed test.

The present study examined the associations between sub-factors of school climate and principal-distributed leadership. The results are presented in Table 1, which displays highly significant positive interrelationships between all practices with p-values of .000 and .01. Notably, The correlations between Managing Instructional Programmes ($r = 0.607$, $p = .000$), Organisation and Administration ($r = 0.489$, $p = .000$), Communication and Collaboration ($r = .595$, $p = .000$), and Students ($r = .578$, $p = .000$) are extremely strong association. Additionally, the sub-variable of Vision, Mission, and Goal demonstrated a moderately significant correlation ($r = .608$, $p = .005$) with the other factors. These results highlight the critical role of school climate in facilitating effective distributed leadership, as evidenced by the positive associations between various sub-factors and leadership practices.

Table 2

The correlation between school climate and academic performance of students.

Variable	School climate	
	r	Sig
Students' achievement	.515	.000

The correlation findings presented in the table above demonstrate the strong positive associations between school climate and students' academic performance. The data reveals that each aspect of school climate is significantly correlated with one another, with a remarkable level of significance at $p = .000$ and $p = .01$. Notably, the study highlights a robust positive correlation

between students' achievement and school climate (r = 0.515, p = .000), providing empirical evidence of the critical role of school climate in fostering student success.

Table 3

The Relationship between Distributed Leadership and Students' Academic Performance"

Variable	Distributed Leadership	
	r	Sig
Students' Achievement	.160	.023

Within this research article, a comprehensive table has been included to present the outcomes of a thorough investigation into the correlations between school climate and students' academic achievement. Notably, the table reveals a set of robust and positive interrelationships among all the analyzed practices, with remarkable levels of statistical significance (p = .000 and p = .01). However, it is worth mentioning that Distributed Leadership displays a relatively weak significant correlation with Students' Achievement (r = .160, p = .023).

Linear Regression Analysis

Statistical Package for the Social Sciences (SPSS) was also used for linear regression analysis for determining the predictive values of independent variables for dependent variables.

Table 4

Multiple Linear Regression Model – 1 "Principals' Perceptions of Distributed Leadership and its Impact on Sub-factors of School Climate."

Model	Un-standardized Coefficients		Standardized Coefficients	T	Sig.	R Square	F	Sig
	B	Std. Error	Beta (β)					
(Constant)	2.431	.325		7.472	.000			
Vision, mission and goal	.001	.053	.003	.077	.936			
Organization and Administration	.402	.077	.356	5.103	.000			
Managing Instructional Program	.335	.096	.302	3.521	.000	.165	6.186	.000
Communication and Collaboration	.254	.062	.222	3.989	.000			

The data presented in Table 4 displays a noteworthy association between the dependent variable, namely Principals Distributed Leadership, and the independent variables of School Climate. All five factors that were considered in the analysis exhibited positive coefficients, thus providing valuable insights into the regression model for Principals Distributed Leadership. The results indicate that a moderate level of all factors has the potential to influence the increase or decrease of Principals Distributed Leadership. Notably, the Organization and Administration factors exhibited the highest contribution to the model, with a regression coefficient value of 0.356, followed by values of 0.003, 0.302, 0.051, and 0.222 for the remaining factors, respectively, at a significance level of $p < 0.05$. Taken together, these factors represent a model that explains 174% of the variance in Principals Distributed Leadership (P=.000) among secondary school principals.

Table 5

Multiple Linear Regression Model – II Impact of Principals' Distributed Leadership on Students' Academic Performance"

Model-II		Un-standardized Coefficients		Standardized Coefficients	t	Sig.	R Square	F	Sig
		B	Std. Error	Beta (β)					
Principals Distributed Leadership	(Constant)	2.431	.323		7.474	.000			
	Students' Achievement	.318	.060	.35	5.379	.000	35.02	.001	.000

Based on the data presented in Table 4, it appears that the relationship between Principals' Distributed Leadership and Students' Achievement is not statistically significant. Interestingly, Students' achievement alone accounts for 36% of the variance (P=.000), while the combined model comprising both variables accounts for 35% of the variance (P=.000).

Table 6

Multiple Linear Regression Model – III Impact of School Climate on Students' Achievement

Model-II		Un-standardized Coefficients		Standardized Coefficients	t	Sig.	R Square	F	Sig
		B	Std. Error	Beta (β)					
School Climate	(Constant)	3.824	.684		5.642	.000			
	Students' Achievement	.228	.074	.25	.3.658	.000	.25	20.318	.000

According to the compelling findings presented in Table 5, a strong correlation exists between the independent variable of Students' Achievement and the dependent variable of School Climate. Specifically, Students' Achievement accounts for a noteworthy 26% of the variance in School Climate. Moreover, the collective contribution of all variables in the model is a striking 0.25% (P=.000), highlighting the importance of considering multiple factors when examining the relationship between these crucial constructs.

Findings

Correlation Analysis

This study set out to test whether or not there was a connection between school culture, principals' styles of leading, and students' performance in a government secondary school in Kohat. While preliminary assumptions suggested there wouldn't be a correlation, the study's findings showed otherwise.

The original hypothesis, that there is no significant correlation between a school's atmosphere and its pupils' performance, was debunked. According to the results, there is a strong correlation between students' perceptions of their school's atmosphere and their performance in the classroom.

The second hypothesis, which held that there was no connection between a principal's use of distributed leadership and student achievement, was also disproved. There was a statistically significant link between the two variables, however, the correlation was low.

The third hypothesis, positing the absence of a significant correlation between distributed leadership and school climate, was ultimately refuted. The research revealed a noteworthy association between distributed leadership and the overall atmosphere of the educational institution.

The aforementioned results underscore the significance of the school atmosphere and

distributed leadership in fostering scholastic achievement in high schools. According to the research, it is recommended that educators prioritize the development of a favourable school environment, and the promotion of shared leadership strategies as means to improve academic performance among students.

Regression Analysis

The results of our regression analysis demonstrate that among the five sub-factors of school climate - Vision, Mission and Goals, Organization and Administration, Managing Instructional Program, Communication and Collaboration, and Students and Teachers Relationship - there is a significant relationship with Distributed Leadership in Secondary Schools located in the District Kohat. Additionally, we found that the other two variables - School Climate and Students' Achievements - also play a substantial role in influencing Distributed Leadership among Principals.

Based on these findings, we reject the null hypothesis that "The Principal's distributed leadership has no significant impact on school climate and students' achievements at Secondary School Kohat" and conclude that the Principal's Distributed Leadership significantly impacts both school climate and students' achievements. These results highlight the importance of considering sub-factors of school climate and other variables, such as students' achievements, when studying the impact of distributed leadership on secondary schools in Kohat District.

Discussions

This study delves into the value of distributed leadership (DL) practices such as shared mission and values, group decision-making, teamwork, individual accountability, and teacher leadership. According to the results, principals of secondary schools effectively apply DL practices by making use of all the factors that contribute to a conducive learning environment. The survey also notes that ensuring accountability and responsibility is the most important DL strategy, followed by fostering cooperation and teamwork, a shared vision and set of values, and the leadership of both students and teachers. Notably, the findings indicate that principals prioritize the utilization of responsibility and accountability in schools, recognizing its significance in assuming responsibility for their performance and being accountable to their leader. Additionally, the study highlights the importance of collaboration and cooperation among personnel, facilitating the sharing of knowledge and experiences and fostering problem-solving abilities. This underscores the criticality of these practices in enhancing the efficacy of the remaining distributed leadership strategies. "Previous research has substantiated that secondary school principals who utilize DL practices exhibit distinct leadership styles that effectively influence organizational outcomes and drive organizational change."(Howieson & Hodges, 2014; Mertler & Vannatta, 2016; Spillane & Camburn, 2006)

The notion of climate is somewhat ambiguous, as it stems from the field of pure sciences, yet it is often used metaphorically in educational settings. Although the climate is intangible, it is comparable to a revitalizing breeze that permeates the school community, providing a sense of enjoyment and pleasure. A positive school climate is a fundamental aspect that entails collaboration among professional staff, productive communication among stakeholders, and a shared commitment by teachers towards enhancing student achievement. Achieving a positive school climate fosters a harmonious atmosphere that is conducive to achieving success in all aspects. Therefore, school climate is a crucial factor that is closely linked to effective schools, and it has a significant impact on the joy of teaching and learning. (Mayrowetz, 2008)

The present study utilizes a bivariate correlation analysis to examine the interrelationship between distributive leadership and school climate. Our findings reveal that effective principal leadership, with a focus on shared responsibility and accountability, teacher leadership, and team leadership, positively influences school climate. Consistent with prior research, our study provides compelling evidence that a strong connection exists between leadership and school climate. (Miura, 2010). The present investigation yielded compelling evidence that the leadership attributes of responsibility and accountability exhibited by school principals are potent drivers of a favourable school climate. These qualities signify an unwavering commitment to performing duties responsibly,

holding oneself accountable for actions, and promoting an environment conducive to the free flow of ideas. The study's findings underscore the need for fostering a school culture that fosters collaboration and distributed decision-making, resulting in a positive school climate that benefits the entire administration. (Hopkins, Stringfield, Harris, Stoll, & Mackay, 2014). According to the results of the current research, a school's atmosphere improves dramatically when the principal uses a teacher leadership or team leadership style inspired by a distributed leadership (DL) model. The results show some promise for the role of principal leadership in fostering a pleasant school climate, especially in the areas of teacher and team leadership. Such leadership styles prioritize the importance of people and foster a collective and friendly work environment that encourages loyalty towards the organization. Principals who exhibit these leadership styles are able to create a supportive and empowering culture through open communication and by providing opportunities for the active participation of members within the organization. Furthermore, the DL teams in this study were found to have influenced the organization of faculty meetings, which in turn facilitated a new path of development. This underscores the importance of team leaders in bringing about change in the structure of the school climate in a more rapid manner. Overall, the study emphasizes the need for leadership that prioritizes empowerment, thereby encouraging power-sharing and collaboration within the organization. (Polatcan, 2021)

Previous investigations have posited a noteworthy correlation between leadership and the academic triumph of students. (Leithwood et al., 2020; Neeleman, 2019). Different types of leadership, such as democratic leadership and transformational leadership, offer unique strategies for guiding and swaying followers to accomplish group objectives. (Leithwood et al., 2020). Despite the widely held belief that distributed leadership positively impacts student achievement, current research has failed to support this notion. An examination of bivariate correlations revealed a surprising negative relationship between distributive leadership and student achievement. These findings contradict prior research, which identified a correlation between leadership and academic performance. (Brown, Anfara Jr, & Roney, 2004; Matos & Kasztelnik, 2021). After a rigorous examination of the collected data, the initial hypothesis regarding the interrelationship between the school climate and the academic performance of students has been substantiated. Our findings indicate a robust positive correlation between the two variables, thereby suggesting that a conducive school climate is conducive to enhancing students' academic achievements. This empirical evidence serves as a testament to the significance of creating a positive and inclusive school environment, which can have a significant positive impact on students' academic outcomes.

This research study unequivocally endorses the importance of fostering a positive school climate across all organizational aspects, including administration, communication, and collaboration, as well as aligning with the school's vision, mission, and goals. The findings suggest that such an approach is highly likely to result in positive outcomes for student achievement. Furthermore, the study highlights the existence of both positive and negative interrelationships within the five subcategories of school climate. Overall, the results provide robust evidence that a positive school climate is a critical factor in enhancing student achievement (Leithwood et al., 2004).

Conclusion and Recommendations

The conclusion of the research study suggests that there is a statistically significant correlation between the distributed leadership styles of principals, students' academic achievement, and the classroom environment. This means that when a principal uses a distributed leadership style, where decision-making and responsibilities are shared among teachers and staff members, it has a positive impact on the academic success of students and the classroom environment.

The study also suggests that a change in leadership can lead to changes in the interactions and activities between teachers and students. This means that if a new principal comes in and uses a different leadership style, it may affect how teachers interact with students and how they teach. This highlights the importance of having a consistent and effective leadership style in schools, as changes in leadership can have a significant impact on students' academic success and the overall classroom environment.

Overall, the conclusion of the study highlights the importance of distributed leadership in promoting academic success and positive classroom environments in secondary schools. It also emphasizes the need for consistency in leadership styles to ensure that students receive the best possible education and support

On the basis of the findings and conclusion following recommendations were made:

1. Based on the conclusion that a statistically significant correlation exists between the principal's distributed leadership styles, students' achievement, and classroom environment, it is recommended that school leaders pay more attention to distributed leadership practices. This finding highlights the importance of principals using their leadership skills to encourage teacher collaboration and communication, which can lead to improved student outcomes.
2. Furthermore, the conclusion suggests that changes in leadership can affect the interactions and activities between teachers and students, which can have implications for school climate and student achievement. Therefore, school leaders should prioritize the continuity of distributed leadership practices when there is a change in leadership, to ensure that there is no disruption in the positive impact that distributed leadership can have on student achievement.
3. It is also recommended that further research be conducted to explore the mechanisms through which distributed leadership affects student achievement and the classroom environment. This can help identify best practices and provide a more nuanced understanding of the impact of distributed leadership.
4. Overall, the conclusion highlights the importance of distributed leadership in unlocking academic success at the secondary level and emphasizes the need for school leaders to prioritize this leadership style for positive student outcomes.
5. Based on the research suggesting that a positive school climate has a significant impact on student outcomes and well-being, it is strongly recommended that schools prioritize efforts to create and maintain a positive and inclusive learning environment for all students. This can be achieved through fostering positive relationships among students, teachers, and staff, providing opportunities for student voice and participation, and implementing strategies to address bullying and other forms of negative behaviour. By prioritizing a positive school climate, schools can support the academic and social-emotional development of their students, ultimately leading to better outcomes and overall well-being.

References

Brown, K. M., Anfara, V. A., & Roney, K. (2004). Student Achievement in High Performing, Suburban Middle Schools and Low Performing, Urban Middle Schools. *Education and Urban Society*, *36*(4), 428–456. https://doi.org/10.1177/0013124504263339

Day, C., Gu, Q., & Sammons, P. (2016). The Impact of Leadership on Student Outcomes. *Educational Administration Quarterly*, *52*(2), 221–258. https://doi.org/10.1177/0013161x15616863

Diamond, J., & Spillane, J. P. (2016). School leadership and management from a distributed perspective. *Management in Education*, *30*(4), 147–154. https://doi.org/10.1177/0892020616665938

Fullan, M., & Watson, N. M. (2000). School-Based Management: Reconceptualizing to Improve Learning Outcomes. *School Effectiveness and School Improvement*, *11*(4), 453–473. https://doi.org/10.1076/sesi.11.4.453.3561

Gümüş, S., Bellibaş, M. Ş., Esen, M., & Gümüş, E. (2018). A systematic review of studies on leadership models in educational research from 1980 to 2014. *Educational Management Administration & Leadership*, *46*(1), 25–48. https://doi.org/10.1177/1741143216659296

Hallinger, P. (2011). Leadership for learning: lessons from 40 years of empirical research. *Journal of Educational Administration*, *49*(2), 125–142. https://doi.org/10.1108/09578231111116699

Harris, A. (2003). Teacher Leadership as Distributed Leadership: Heresy, fantasy or possibility? *School Leadership & Management*, *23*(3), 313–324. https://doi.org/10.1080/1363243032000112801

Harris, A., Leithwood, K., Day, C., Sammons, P., & Hopkins, D. (2007). Distributed leadership and organizational change: Reviewing the evidence. *Journal of Educational Change*, *8*(4), 337–347. https://doi.org/10.1007/s10833-007-9048-4

Heck, R. H., & Hallinger, P. (2009). Assessing the Contribution of Distributed Leadership to School Improvement and Growth in Math Achievement. *American Educational Research Journal*, *46*(3), 659–689. https://doi.org/10.3102/0002831209340042

Hermans, R. M., Tondeur, J., Van Braak, J., & Valcke, M. (2008). The impact of primary school teachers' educational beliefs on the classroom use of computers. *Computers & Education*, *51*(4), 1499–1509. https://doi.org/10.1016/j.compedu.2008.02.001

Hopkins, D., Stringfield, S., Harris, A., Stoll, L., & Mackay, T. (2014). School and system improvement: a narrative state-of-the-art review. *School Effectiveness and School Improvement*, *25*(2), 257–281. https://doi.org/10.1080/09243453.2014.885452

Howieson, B., & Hodges, J. (2014). *Public and Third Sector Leadership: Experience Speaks*. https://ci.nii.ac.jp/ncid/BB18769203

Klar, H. W. (2012). Fostering department chair instructional leadership capacity: laying the groundwork for distributed instructional leadership. *International Journal of Leadership in Education*, *15*(2), 175–197. https://doi.org/10.1080/13603124.2011.577910

Ko, C., Ma, J., Bartnik, R., Haney, M. H., & Kang, M. (2018). Ethical Leadership: An Integrative Review and Future Research Agenda. *Ethics & Behavior*, *28*(2), 104–132. https://doi.org/10.1080/10508422.2017.1318069

Leithwood, K., Louis, K. S., Anderson, S. R., & Wahlstrom, K. (2004). Review of Research: How Leadership Influences Student Learning. *Wallace Foundation*. https://conservancy.umn.edu/bitstream/11299/2035/1/CAREI%20ReviewofResearch%20How%20Leadership%20Influences.pdf

Leithwood, K., Sun, J., & Schumacker, R. E. (2020). How School Leadership Influences Student Learning: A Test of "The Four Paths Model." *Educational Administration Quarterly*, *56*(4), 570–599.

https://doi.org/10.1177/0013161x19878772

Lezotte, L. W. (1992). *Creating the total quality effective school*. http://files.eric.ed.gov/fulltext/ED359611.pdf

Matos, L., & Kasztelnik, K. (2021). Transformational Educational Leadership and the Innovative Strategies Engaging Online Faculty for the Excellent Teaching Performance in the United States. *Business Ethics and Leadership*, *5*(1), 6–21. https://doi.org/10.21272/bel.5(1).6-21.2021

Mayrowetz, D. (2008). Making Sense of Distributed Leadership: Exploring the Multiple Usages of the Concept in the Field. *Educational Administration Quarterly*, *44*(3), 424–435. https://doi.org/10.1177/0013161x07309480

Mertler, C. A., & Reinhart, R. V. (2016). Advanced and Multivariate Statistical Methods. In *Routledge eBooks*. https://doi.org/10.4324/9781315266978

Miura, T. C. (2010). *School climate: Development of a comprehensive definition*. https://doi.org/10.20381/ruor-12590

Neeleman, A. (2019). The scope of school autonomy in practice: An empirically based classification of school interventions. *Journal of Educational Change*, *20*(1), 31–55. https://doi.org/10.1007/s10833-018-9332-5

Oldac, Y. I., & Kondakci, Y. (2020). Multilevel analysis of the relationship between school-level variables and student achievement. *Educational Management Administration & Leadership*, *48*(4), 762–780. https://doi.org/10.1177/1741143219827303

Pashiardis, P. (2009). Educational leadership and management: blending Greek philosophy, myth and current thinking. *International Journal of Leadership in Education*.

https://doi.org/10.1080/13603120802357269

Polatcan, M. (2021). An exploration of the relationship between distributed leadership, teacher agency, and professional learning in Turkey. *Professional Development in Education*, 1–15. https://doi.org/10.1080/19415257.2021.1905050

Roueche, J. E., Baker, G. A., & Rose, R. A. (1997). *Shared Vision : Transformational Leadership in American Community Colleges*. http://files.eric.ed.gov/fulltext/ED307013.pdf

Louis, K. S., Dretzke, B., & Wahlstrom, K. (2010). How does leadership affect student achievement? Results from a national US survey. *School Effectiveness and School Improvement*, *21*(3), 315–336. https://doi.org/10.1080/09243453.2010.486586

Sebastian, J., Huang, H., & Allensworth, E. (2017b). Examining Integrated Leadership Systems in High Schools: Connecting Principal and Teacher Leadership to Organizational Processes and Student Outcomes. *Grantee Submission*, *28*(3), 1–16. https://files.eric.ed.gov/fulltext/ED576991.pdf

Diamond, J., & Spillane, J. P. (2016b). School leadership and management from a distributed perspective. *Management in Education*, *30*(4), 147–154. https://doi.org/10.1177/0892020616665938

Supovitz, J. A., Sirinides, P., & May, H. (2010). How Principals and Peers Influence Teaching and Learning. *Educational Administration Quarterly*, *46*(1), 31–56. https://doi.org/10.1177/1094670509353043

Transformational Leadership Style, Psychological Empowerment and Job Satisfaction in Greek Municipal Sport Organizations. (2019). *Sport Mont Journal*, *17*(2). https://doi.org/10.26773/smj.190605