

School Leadership and Student Achievement: A Systematic Review of Leadership Practices and Indirect Pathways

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Abstract

School leadership is widely regarded as an important school-level factor associated with student outcomes, yet evidence concerning direct relationships remains mixed. This study systematically reviews empirical research on the relationship between school leadership and student achievement in secondary-school settings, with particular attention to possible indirect pathways. Following the PRISMA 2020 framework, 58 records were identified through Education Source and ERIC. After applying publication, language, duplication, study-design, and relevance criteria, 15 empirical studies published between 2014 and 2024 were included. The studies were synthesized through a framework-guided thematic approach organized around three leadership practices: setting direction, developing people, and redesigning the organization. The findings suggest that leadership is associated with student achievement mainly through proposed indirect pathways. Setting direction may align school priorities and motivate stakeholders, although patterns vary across student groups and contexts. Developing people may strengthen teacher professional learning and instructional practice, while redesigning the organization may support school climate, trust, discipline and safety, and resource management. Because several included studies provided contextual evidence without measuring student achievement or formally testing mediation, these pathways should be interpreted as plausible explanatory links rather than confirmed causal mechanisms. Overall, the review identifies teacher learning, instructional practice, school climate, and resource allocation as priorities for future empirical testing.

Keywords

School Leadership, Student Achievement, Secondary Education, Instructional Leadership, Systematic Literature Review

1. Introduction

1.1. Background

School leadership (SL) is widely recognized as an important school-level factor in improving educational quality and student outcomes (Fullan, 2007). The secondary school years are particularly significant for students' academic and psychosocial development. During adolescence, students may experience substantial fluctuations in academic motivation and self-esteem while developing their identities and sense of social belonging (Eccles & Roeser, 2011). At the same time, some school leaders may have limited preparation or experience in addressing the distinctive developmental and instructional needs of secondary school students (Bickmore, 2011). Although student achievement in this study is operationalized primarily in terms of academic performance, motivational and psychosocial factors can shape students' engagement with learning and, consequently, their academic outcomes (Zhao et al., 2021). School leaders therefore require both a sound understanding of educational principles and context-sensitive strategies suited to adolescent learners. The diversity of student needs and the complexity of school environments make this a demanding task in practice (Harris & Jones, 2018).

Accordingly, meeting the academic needs of secondary school students requires strong school leadership and continued professional development for school leaders. However, the diversity of students' developmental trajectories and the complexity of school contexts mean that leadership practices may not produce uniform effects. Understanding how leadership influences achievement, including the indirect pathways through which this influence occurs, is therefore an important area of inquiry.

1.2. Research Question

The research question guiding this study is: What relationships between school leadership and student achievement are reported in secondary-school research, and what possible indirect pathways are described? In this review, "school leadership" refers to the actions and practices of principals and school management teams. "Student achievement" is defined primarily as academic performance measured through subject assessments, grades, or comparable indicators reported in the reviewed studies. "Secondary schools" refer to institutions providing lower or upper secondary education, generally serving students aged approximately 12 to 18. These definitions establish the conceptual boundaries for examining associations between leadership practices and student achievement in secondary education.

1.3. Rationale

This research question is important because a substantial body of evidence indicates that school leadership is associated with student achievement (Leithwood et al., 2008; Shaked & Schechter, 2014). However, the pathways that may connect leadership with student outcomes remain less clearly understood, particularly

when relationships are indirect rather than immediate (Jacob et al., 2015). In secondary education, there is therefore a need to examine not only whether leadership matters, but also how specific leadership practices may be related to student performance through teachers, school culture, and organizational conditions.

Although many studies have examined the relationship between school leadership and academic performance, reported direct associations are often modest or inconsistent (Grissom et al., 2013; Marks & Printy, 2003). More recent work suggests that leadership may be linked to student outcomes through indirect mechanisms and mediating processes (Özdemir et al., 2024). Examining these possible pathways can refine theoretical models of school leadership and provide a stronger evidence base for leadership development and educational policy.

2. Literature Review

2.1. Key Thinkers

Research on school leadership has developed over several decades and has become increasingly systematic across Western countries and parts of Asia (Bush, 2011; Gunter, 2020). Early work by Edmonds (1982) helped draw attention to the relationship between leadership, school effectiveness, and educational outcomes. Building on this foundation, scholars in educational administration have increasingly examined how leadership practices shape teaching, organizational conditions, and student success.

Michael Fullan is a major contributor to the literature on educational leadership and change. His work emphasizes the role of school leaders in supporting teachers' professional growth and guiding organizational change (Fullan, 2007). Fullan argues that leaders should cultivate collaborative cultures that enable sustained professional learning and school improvement. He also highlights the importance of forward-looking strategic planning when schools respond to complex educational challenges (Fullan & Scott, 2009). These ideas have had a broad influence on contemporary understandings of leadership for school improvement.

Philip Hallinger's work has contributed substantially to the development of both instructional and distributed perspectives on school leadership. Leadership, in this view, need not be concentrated solely in the principal; responsibilities can be distributed across members of the school organization (Hallinger, 2005; Heck & Hallinger, 2009). Teachers can therefore play an active role in leadership processes, contributing to school improvement and, indirectly, to student achievement.

Kenneth Leithwood's research has also significantly shaped contemporary understandings of school leadership (Leithwood et al., 2008). His work emphasizes leaders' capacity to establish direction, motivate staff, and create conditions that support teaching and learning. In the influential "seven strong claims about successful school leadership," Leithwood et al. (2008) argue that school leadership is second only to classroom teaching among school-related factors influencing student learning.

Taken together, the work of Gunter, Fullan, Hallinger, Leithwood, and other scholars provides an important conceptual foundation for examining relationships among leadership, school improvement, and student outcomes.

2.2. Current State of Research

Current research on school leadership can be broadly characterized by two complementary strands. One strand synthesizes existing evidence to clarify the mechanisms through which different leadership models operate (Goldring et al., 2019; Gümüş et al., 2024). Meta-analyses have further combined findings across studies to estimate the broader effects of leadership practices on educational outcomes (Ertem, 2021; Sun & Leithwood, 2015; Tan et al., 2024). These approaches help identify both overall patterns and the contexts in which particular leadership practices may be more effective.

A second strand focuses on specific leadership models and their relationships with student achievement. For example, Day et al. (2016) examined the direct and indirect effects of transformational and instructional leadership on student outcomes. Other scholars have considered how leadership theories and practices contribute to wider processes of school improvement (Bush, 2016). This literature increasingly treats leadership as a mechanism for shaping teaching quality, professional learning, organizational capacity, and student learning rather than as a purely administrative function.

Overall, research suggests that school leadership is positively associated with student achievement, although the magnitude and form of the relationship vary across studies and contexts (Gümüş et al., 2024). The accumulation of research has enabled increasingly sophisticated syntheses of relationships between leadership and student learning (Leithwood et al., 2020). Consequently, attention has shifted from establishing whether leadership matters to identifying the pathways and conditions through which leadership may be linked to outcomes.

Among the many leadership approaches examined in the literature, instructional leadership and transformational leadership are two of the most prominent (Hallinger, 2003). As educational priorities have shifted, leadership theory has moved beyond a predominantly managerial orientation toward a stronger emphasis on teaching and learning outcomes (Leithwood et al., 2006). Instructional leadership focuses on how principals and leadership teams support teaching quality, curriculum, assessment, and teachers' instructional improvement (Day et al., 2016). Transformational leadership, by contrast, places greater emphasis on developing a shared vision, motivating staff, and building a positive organizational culture that supports change and innovation (Leithwood & Sun, 2012).

Instructional leadership (IL) is particularly relevant to the present study because it focuses directly on the conditions that support teaching and learning. Research suggests that IL can contribute to school, teacher, and student outcomes through practices such as setting academic goals, coordinating instructional priorities, supporting professional learning, and managing relationships and organ-

izational conditions (Osman & Mukuna, 2013; Shaked & Schechter, 2014). Recent reviews further indicate that leadership effects often extend beyond individual classrooms by shaping schoolwide processes and structures (Özdemir et al., 2024).

2.3. Research Gaps

Despite broad agreement that leadership matters, evidence concerning its direct effect on secondary students' academic achievement remains mixed. Some studies report a direct association between leadership practices and student performance (Grissom et al., 2013), whereas analyses based on large-scale outcome data have found small or statistically limited effects (Jacob et al., 2015). These differences highlight the need for more systematic attention to indirect pathways linking leadership and student outcomes (Branch et al., 2013). Leadership effects may also develop over time, making them difficult to capture through short-term measures or standardized test data alone (Coelli & Green, 2012). The relationship between leadership and achievement may therefore be better understood as a complex process involving mediating mechanisms and delayed effects.

Potential mediating factors may help explain reported relationships between leadership practices and student outcomes (Rechsteiner et al., 2022). Rather than treating leadership as an isolated input, this perspective examines how principals' and administrators' actions are related to teachers, organizational processes, and learning conditions that may subsequently be associated with student achievement. Hackman and Wageman (2007) similarly argue that leadership research should move beyond asking whether leaders have an effect and instead examine the conditions under which leadership behaviors are associated with systematic consequences. This perspective supports closer examination of schoolwide and sustained processes rather than one-off leadership actions.

3. Methodology

3.1. Worldview

Social constructivism emphasizes that knowledge and meaning are constructed through social interaction and shaped by cultural and institutional contexts (Creswell & Creswell, 2023). From this perspective, educational phenomena are understood through the interpretations, relationships, and contexts in which they occur (Cohen et al., 2018). Philosophical worldviews influence how researchers frame questions, select methods, analyze evidence, and interpret findings (Slife & Williams, 1995). A social constructivist orientation is therefore useful for examining school leadership because leadership practices acquire meaning through interactions among leaders, teachers, students, and the wider school community.

A qualitative interpretive approach is consistent with this worldview because it allows attention to multiple perspectives and context-dependent meanings (Creswell & Creswell, 2023; Punch, 2014). Qualitative research encompasses diverse approaches rather than a single fixed procedure (Denzin & Lincoln, 2000; Flick,

2018). In the present review, a deductive analytical orientation was used to synthesize how leadership practices were described across studies and to examine how interactions among school actors and organizational conditions were linked to student achievement.

Social constructivism also encourages sensitivity to variation across social and cultural contexts. Accordingly, the systematic literature review (SLR) was used not only to identify recurring patterns but also to consider how leadership practices and their effects may differ across school settings. This approach is consistent with the broader purpose of qualitative evidence synthesis, which can organize findings while preserving attention to contextual diversity (Theile & Beall, 2024).

3.2. Theoretical Perspective

The analytical framework for this study draws on the leadership practices described by Leithwood et al. (2004). Their work synthesizes evidence from leadership research and identifies core practices through which school leaders may be connected with teaching and learning. These practices provide a useful structure for organizing evidence on relationships between leadership and student achievement.

This review focuses on three leadership practice dimensions emphasized by Leithwood et al. (2004): setting direction, developing people, and redesigning the organization. Setting direction involves establishing goals and a shared sense of purpose, particularly around teaching and student learning. Developing people concerns strengthening staff knowledge, skills, motivation, and professional capacity. Redesigning the organization involves creating collaborative cultures, supportive structures, and organizational conditions that enable staff and students to work toward shared goals. Together, these dimensions provide a coherent framework for examining possible individual and organizational pathways linking leadership with student achievement.

From a social constructivist perspective, these leadership practices can be understood as relational and context-dependent rather than as isolated managerial actions. School leaders work with teachers and other members of the school community to construct shared expectations concerning teaching, learning, and student success. Through repeated interactions, these expectations can become embedded in school culture and shape how members interpret and pursue academic goals.

For the purposes of this review, the three dimensions are used as an instructional-leadership-oriented analytical framework for organizing the evidence. They are not treated as a single mediating variable; rather, they provide categories through which the review examines the pathways connecting school leadership with student achievement in secondary schools.

3.3. Data Collection Method

A systematic literature review is a structured approach to identifying, evaluating,

and synthesizing research relevant to a clearly defined question (Petticrew & Roberts, 2006). By applying predetermined search and eligibility criteria, an SLR increases the transparency and consistency of study selection and supports the development of evidence-based conclusions (Gough et al., 2012).

This study followed the PRISMA 2020 flow framework (Page et al., 2021) (Figure 1). Searches were conducted in Education Source (EBSCO) and ERIC using the terms shown in Table 1, yielding 58 records. Eligibility was initially restricted to peer-reviewed English-language articles published between 2014 and 2024, reducing the pool to 32 records. Titles and abstracts were then screened. Studies were required to report original empirical research in a school-based setting. Studies that directly measured a relationship between leadership and student achievement were treated as direct achievement evidence. Studies that examined leadership-related teacher or organizational processes without a student achievement measure were retained only when they contributed contextual or mechanism-focused evidence relevant to the review question; they were not treated as direct evidence of achievement effects. Five records were excluded because they were not original research, and seven duplicates were removed, leaving 20 articles for further assessment.

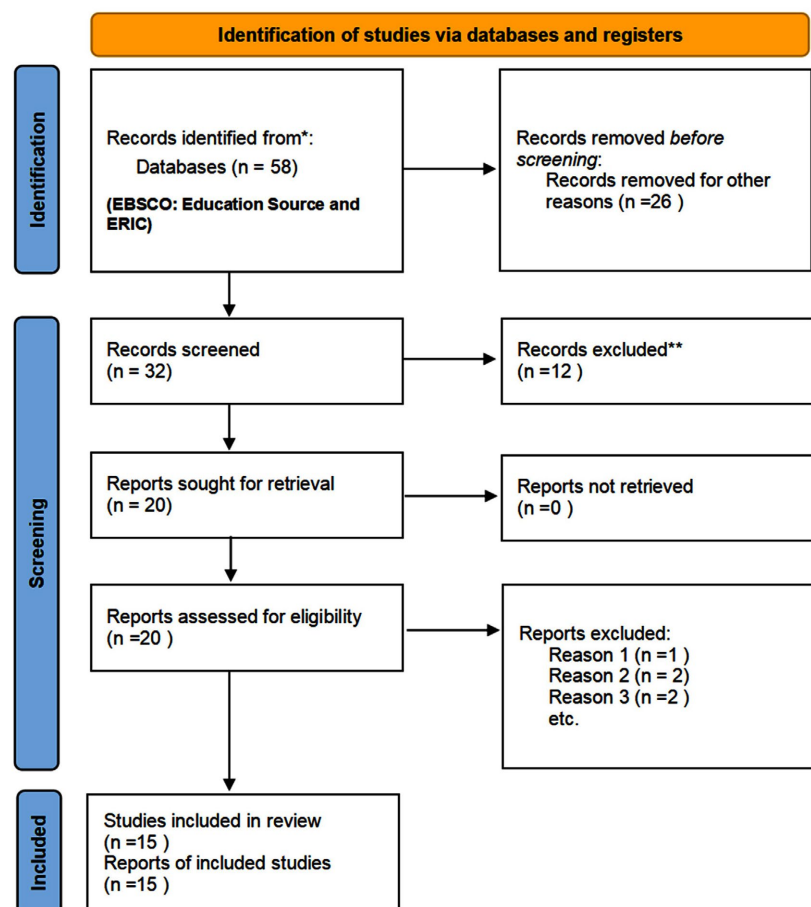


Figure 1. PRISMA 2020 flow diagram.

Table 1. Search strategy used in both databases.

Key words	Searching words
School leadership	
Affect	Impact
Secondary school	Junior high school or middle school
Student achievement	Learning outcome* or student outcome*

(“school leadership”) AND (affect* OR impact*) AND (“secondary school” OR “junior high school” OR “middle school”) AND (“student achievement” OR “learning outcome*” OR “student outcome*”).

The remaining 20 articles were assessed in greater depth by reviewing their results and discussion sections. Five studies were excluded because they did not provide sufficient direct or contextual evidence relevant to the relationship between school leadership and student achievement. The final review included 15 empirical studies for in-depth analysis. Because these studies varied in design and evidential focus, the synthesis distinguishes measured achievement findings from contextual evidence concerning leadership practices, teacher learning, coaching, school climate, and organizational conditions.

The same Boolean string was applied in Education Source (EBSCO) and ERIC. The original field-level settings were not retained in the review records and therefore cannot be reconstructed retrospectively. This reporting limitation is acknowledged below, and no additional records or revised screening counts are claimed in the present revision.

3.4. Data Analysis Method

Thematic analysis is a qualitative method for identifying, analyzing, and interpreting patterns within a body of data (Clarke & Braun, 2016; Terry & Hayfield, 2021). It is particularly useful for synthesizing complex qualitative information and was therefore appropriate for organizing findings across the studies included in this SLR. In systematic reviewing, thematic analysis can support the integration of findings from multiple sources into coherent analytical themes (Theile & Beall, 2024).

A framework-guided thematic synthesis was conducted using the pre-existing leadership framework as a deductive organizing structure (Linneberg & Korsgaard, 2019). The three dimensions of setting direction, developing people, and redesigning the organization guided the initial organization of evidence. Within each dimension, the analysis remained attentive to study-specific findings, contextual differences, and relationships among leadership practices, organizational conditions, and student achievement.

The results and discussion sections of the included studies were read closely, and relevant text was extracted and coded against the three framework dimensions. Related codes were then grouped into more specific subthemes, and similarities and differences across studies were compared. Particular attention was

given to whether a study measured student achievement and whether an indirect pathway was formally tested or only proposed. The synthesis therefore used pre-defined categories to organize the evidence while allowing subthemes and contextual qualifications to emerge within those categories.

3.5. Methodological Scope

No formal methodological-quality appraisal was conducted in the original review. Accordingly, the synthesis is descriptive and interpretive rather than a weighted estimate of effect. Findings from studies that measured achievement are distinguished conceptually from contextual studies that focused on leadership practices, teacher learning, coaching, or organizational conditions. Claims about indirect pathways are treated as proposed explanations unless the underlying study measured student achievement and formally tested mediation.

4. Results and Discussion

4.1. Findings and Discussion

4.1.1. Theme: Setting Direction

Table 2 summarizes the evidence relating to setting direction and identifies three recurring subthemes. Across the included studies, setting direction emerged as an important leadership practice associated with student achievement through goal alignment, a shared vision for student learning, and the prioritization of decisions according to their likely educational impact.

Table 2. Theme 1—setting direction.

Theme	Sub-themes	Example
Setting direction	Setting goals	Leaders set widely agreed-upon directions. Lack of explicit vision.
	Vision for student achievement	Principals ensure alignment with educational goals.
		Vision positively influences student learning.
		Implementing a shared vision for improved student performance.
	Direction priority orders	Impact-based decision prioritization. Promote students' learning motivation by prioritizing the best direction for the course.

Setting a clear direction and communicating it to relevant stakeholders is a central leadership practice because it helps align the school community around shared goals (Noor & Nawab, 2022). A lack of an explicit vision can weaken collective direction and collaboration, whereas a broadly shared vision can motivate staff to work toward common priorities (Marfan & Pascual, 2018; Noor & Nawab, 2022). Milman (2020) found that principals used learning technologies to support a broad and inclusive educational vision, while Mombourquette (2017) reported

that leaders in high-performing schools often articulated a vision centered on students' overall development. Decision priorities also matter: leaders may support learning conditions by selecting initiatives according to their likely relevance for students (Boykin et al., 2024). For example, appropriate choices about curriculum and technology may strengthen student motivation and engagement (Dexter & Barton, 2021).

However, setting appropriate goals does not necessarily produce an immediate or direct improvement in student achievement (Noor & Nawab, 2022). In practice, leaders may devote substantial attention to curriculum coverage, discipline, or operational demands, which can limit the extent to which stated goals are translated into instructional improvement. Tan (2018) further suggests that the effects of goal-setting practices may vary across student groups, with particularly strong consequences for disadvantaged students. These findings indicate that the effectiveness of direction-setting depends on both implementation and context.

4.1.2. Theme: Developing People

Table 3 summarizes developing people as a key leadership practice and identifies two recurring subthemes: alignment with school goals and the promotion of teacher professional development. The reviewed evidence suggests that leadership may be linked to student achievement through teacher professional learning and instructional capacity; however, several studies in this theme provide contextual evidence rather than direct tests of achievement or mediation.

Table 3. Theme 2—developing people.

Theme	Sub-themes	Example
Developing people	Alignment with school goals	Ensure that teachers' professional development activities align with the school's goals.
		Ensure teachers' tools and methods align with school goals.
	Promoting teacher professional development (PD)	Enhancing teaching capacity.
		Sustained coaching over short-term training.
		Teaching leadership indirectly improves practice by enhancing teacher learning.
		Student achievement relies on teacher ability.
		Offer practical training to help teachers.

Developing people represents one possible pathway connecting leadership with student achievement. Aligning teachers' professional development with the school's instructional goals can strengthen coherence between professional learning and classroom practice (Marfan & Pascual, 2018). Instructional leaders can support teachers by providing sustained opportunities for professional learning, feedback, and coaching (Noor & Nawab, 2022). Evidence also suggests that ongo-

ing coaching may be more effective than isolated, short-term training because it allows teachers to refine practice over time (Ray, 2017). These studies support links between leadership and teacher capacity, but they do not by themselves demonstrate a complete causal pathway to student outcomes.

Several studies provide evidence for parts of a possible pathway linking school leadership, teacher professional learning, instructional practice, and student achievement (Bellibaş et al., 2021; Dexter & Barton, 2021; Noor & Nawab, 2022). As illustrated in **Figure 2**, leadership practices may support teacher professional learning (TPL) through sustained support and feedback, and stronger TPL may in turn be associated with changes in instructional practice (IP). Bellibaş et al. (2021) examined teacher professional learning and instructional practice but did not measure student achievement; therefore, the final link to achievement in **Figure 2** is a conceptual extension synthesized across the reviewed literature, not a mediation pathway formally tested in that study.



Figure 2. Conceptual Pathway Linking School Leadership and Student Achievement. Note. Author's synthesis based on Bellibaş et al. (2021) and the wider reviewed literature. The complete pathway was not formally tested in a single included study.

4.1.3. Theme: Redesigning the Organization

Table 4 summarizes practices associated with redesigning the organization and shows how organizational structures, school climate, learning culture, discipline and safety, and resource management can create conditions that support student achievement.

Redesigning the organization is an important leadership practice because school structures and social networks can shape the conditions under which teaching and learning occur (Marfan & Pascual, 2018). Through supportive and interactive coaching, leaders can promote organizational change and create additional opportunities for student success (Ray, 2017). Instructional leadership can also strengthen a culture of continuous learning by supporting teachers' professional development and encouraging schoolwide improvement (Noor & Nawab, 2022). Principals may further strengthen programs and relationships in ways that create a high-trust environment, enabling teachers to take greater responsibility and participate more confidently in leadership activities (Cox & Mullen, 2023;

Sharland & Thornton, 2024).

Table 4. Theme 3—redesigning the organization.

Theme	Sub-themes	Example
Redesigning the organization	Organizational influence	Influencing the overall effectiveness of the school by adjusting its structure and social networks. Transformational coaching framework.
	Creating a positive school climate and learning culture	Fostering a learning culture.
		Schoolwide change through program and culture strengthening.
		Trust-based environment.
		Positive relationship between climate and achievement.
	Resource management	Discipline and safety Resource management is significantly related to student achievement.

School climate is also closely associated with student achievement. Positive climates, including effective discipline and safety practices, can support students' academic engagement and performance (Boykin et al., 2024). Supportive and interactive learning environments have likewise been associated with improved outcomes across different school contexts (Highfield & Rubie-Davies, 2022). Resource management represents another important organizational pathway: effective allocation and use of resources can support teacher development and create stronger conditions for student learning (Highfield & Rubie-Davies, 2022).

4.2. Linking the Findings to the Research Question

The research question asked what relationships between school leadership and student achievement are reported in secondary-school research and what possible indirect pathways are described. The review identifies three interrelated dimensions: setting direction, developing people, and redesigning the organization. Taken together, the evidence is consistent with a predominantly indirect account in which leadership is associated with the goals, professional capacity, and organizational conditions surrounding teaching and learning. The evidence does not support a general causal conclusion.

With respect to setting direction, leadership may be associated with student achievement through shared goals and the prioritization of decisions with educational relevance (Marfan & Pascual, 2018). However, the contribution of goal setting depends on alignment with students' needs and on how goals are implemented in practice (Noor & Nawab, 2022; Tan, 2018). This finding adds nuance to theoretical accounts of direction-setting by showing that goals do not operate uniformly across contexts or student groups. Leadership models should therefore

account for differences in student needs and school environments when explaining associations involving goal-oriented practices.

The findings on developing people provide evidence for several components of a possible indirect pathway. Leadership practices are associated with teachers' professional learning and instructional capacity, while improved classroom practice is plausibly linked to student achievement (Bellibaş et al., 2021; Cox & Mullen, 2023). However, the full sequence was not formally tested across all cited studies. The pattern should therefore be interpreted as a proposed explanatory pathway rather than confirmed mediation.

The third pathway concerns organizational conditions. Leadership can contribute to student achievement by strengthening school climate, improving resource allocation, and supporting effective discipline and safety practices (Boykin et al., 2024; Cox & Mullen, 2023; Ray, 2017; Sharland & Thornton, 2024). A positive and supportive school climate can increase students' motivation and classroom engagement, while effective resource management can create better conditions for teaching and learning. Future theoretical models should therefore give greater attention to resource allocation and organizational capacity, particularly in settings where resources are constrained.

4.3. Linking the Findings to the Literature Review

The findings are broadly consistent with the existing literature while also highlighting important contextual differences. The review reinforces the value of instructional leadership for improving student outcomes through teaching- and learning-focused processes. Neal (2024), for example, reported no significant effect of transformational leadership on teachers' data-informed instruction or student achievement, illustrating that not all leadership approaches operate in the same way across contexts. This pattern is consistent with literature emphasizing the central role of instructional processes in connecting leadership to achievement (Leithwood et al., 2006; Shaked & Schechter, 2014). Tan (2018) also found that leadership effects can differ according to socioeconomic context, suggesting that practices such as distributed leadership or goal setting may produce different outcomes for disadvantaged students. Such findings caution against assuming that any single leadership practice will be equally effective in all settings.

The findings also support earlier arguments concerning the importance of school culture. Fullan (2007) emphasizes that supportive and collaborative cultures can strengthen teachers' motivation and professional engagement. Similarly, Sun and Leithwood (2015) argue that leaders can promote collaboration and staff development by creating supportive organizational conditions. Shin et al. (2017) further suggest that leadership may be linked to student achievement through school climate and teacher attitudes. Together, these studies identify organizational and relational processes as plausible links between leadership and learning.

At the same time, the review suggests that an excessive emphasis on academic performance can have unintended consequences. When accountability for test re-

sults becomes disproportionately dominant, broader aspects of learning and student development may receive less attention, and student stress may increase (Highfield & Rubie-Davies, 2022). Differences across educational contexts and student backgrounds may partly explain inconsistencies in the literature (Tan, 2018). Effective leadership therefore requires a balance between academic expectations and attention to students' broader developmental needs.

4.4. Theoretical and Practical Implications

This review suggests that school leadership is related to student achievement through three interrelated practices: setting direction, developing people, and re-designing the organization. Its theoretical contribution lies less in claiming a simple direct effect than in organizing possible pathways through which leadership may be connected with learning. Teacher professional learning, instructional practice, school climate, and organizational conditions emerged as important links requiring further empirical testing.

Secondary education is a particularly important context for leadership because adolescence is associated with substantial changes in students' motivation, self-esteem, identity, and social relationships (Eccles & Roeser, 2011). School leaders must therefore coordinate academic priorities while also responding to diverse developmental needs and organizational pressures (Bickmore, 2011; Harris & Jones, 2018). This challenge may be especially pronounced in resource-constrained or disadvantaged settings. Cox and Mullen (2023), for example, found that principals' instructional leadership practices were associated with improved achievement in two Title I rural schools. Highfield and Rubie-Davies (2022) similarly show that effective middle leadership can contribute positively to outcomes in economically disadvantaged schools. These findings underscore the practical value of strengthening leadership capacity in contexts where students face additional barriers to achievement.

For teachers, the review highlights the importance of aligning professional development with schoolwide goals and instructional priorities. Professional learning supported by instructional leadership may strengthen teaching methods and classroom practice, which may in turn support student achievement (Bellibaş et al., 2021). Teachers are therefore not simply recipients of leadership; they are active contributors to the school's instructional vision, and their professional growth may form an important link between leadership and student success.

For policymakers and school systems, the findings support careful investment in leadership development that emphasizes instructional improvement, teacher learning, collaborative culture, and organizational capacity. Leadership preparation should help school leaders translate broad goals into sustainable practices that support teaching and learning. A clearer understanding of the conditions under which leadership is associated with student outcomes can also help policymakers design context-sensitive training and support systems rather than relying on uniform leadership prescriptions.

5. Conclusion

5.1. Summary of Key Findings

In secondary education, school leadership appears to be associated with student achievement mainly through possible indirect pathways. Across the 15 studies included in this review, three leadership dimensions were especially relevant: setting direction, developing people, and redesigning the organization. Setting direction may help establish shared educational goals and priorities, although patterns depend on implementation and student context (Marfan & Pascual, 2018; Mombourquette, 2017; Tan, 2018). Developing people may support teacher professional learning and instructional improvement (Bellibaş et al., 2021; Noor & Nawab, 2022; Ray, 2017). Redesigning the organization may contribute by strengthening school climate, learning culture, discipline and safety, and the use of resources (Boykin et al., 2024; Highfield & Rubie-Davies, 2022). Overall, the evidence supports a cautious relational interpretation: leadership is linked to the professional and organizational conditions surrounding teaching and learning, but causal effects and complete mediation pathways cannot be inferred from the evidence as a whole.

5.2. Contributions

This study contributes to the literature by synthesizing evidence on possible links between school leadership and student achievement in secondary schools. Rather than treating leadership effects as primarily direct, the review organizes a set of intermediary processes that may connect leadership with outcomes. Teacher professional learning, instructional practice, school climate, and organizational conditions emerge as plausible mechanisms. These relationships should be treated as propositions for future empirical testing rather than as uniformly demonstrated mediation effects.

The review also offers practical implications for school leaders and policymakers. In complex or resource-constrained settings, instructional leadership can provide a structured approach to setting priorities, supporting teacher development, and strengthening organizational conditions for learning (Bellibaş et al., 2021). For policymakers, the findings support leadership-development programs that help school leaders connect strategic direction with teachers' professional growth and the creation of positive school environments (Shaked & Schechter, 2014).

5.3. Limitations

This review has several limitations. The search was limited to two databases and used a relatively narrow set of keywords; broader role-based and leadership-model terms were not included, and the original field settings were not retained. The included studies were heterogeneous in context, design, measures, and evidential focus. Some measured student achievement directly, whereas others contributed only contextual evidence concerning leadership practices, teacher learning, coaching, school climate, or organizational conditions. In addition, no formal method-

ological-quality appraisal was conducted. The synthesis therefore does not establish causal effects or confirmed mediation and should be read as a framework-guided account of reported associations and plausible pathways.

5.4. Suggestions for Future Research

Future research should examine more complex mediating and moderating factors to estimate more precisely how school leadership is related to student achievement. The present review used the leadership-practice framework derived from Leithwood et al. (2004) to organize evidence on possible indirect pathways. Further studies should test these pathways across a wider range of schools, educational systems, socioeconomic contexts, and student populations. Longitudinal and quasi-experimental research would be especially useful for examining temporal order and strengthening causal inference. Future reviews should expand database search terms to include role-based and leadership-model terms such as principal, headteacher, instructional leadership, transformational leadership, and distributed leadership, and should report complete database-specific strings and fields searched.

Author Contributions

Both authors contributed to the conception, literature review, analysis, and preparation of the manuscript. Both authors reviewed and approved the final version.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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Appendix

Included Studies in the Systematic Literature Review

Note. Studies reporting student achievement measures were treated as direct achievement evidence. Studies focused on leadership practices, teacher learning, coaching, school climate, or organizational conditions without an achievement measure were used only as contextual or mechanism-focused evidence and were not treated as tests of direct effects or mediation.

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