

The Effects of English Teacher Leadership and Teacher-Learner Associations on Academic Performance: A Meta-Synthesis

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Abstract

Understanding the impact of teacher leadership and teacher-learner associations is crucial for enhancing academic success. This meta-synthesis explores the combined effects of English teacher leadership and teacher-learner associations on learners' academic performance. The analysis synthesizes findings from 16 meta-analyses on teacher relationships and 21 studies on teacher leadership. The study addresses three research questions: the association between various types of teacher associations and academic performance, the influence of teacher leadership on learner achievement, and the interplay between these factors. Hypotheses proposed that both teacher-learner associations and teacher leadership would positively impact learner performance, with greater effects when combined. Statistical analyses were conducted using the random effects model. Positive teacher relationships, especially within the school community ($ES = .38$), significantly enhance academic achievement, while negative relationships, particularly intrapersonal ones ($ES = -.26$), detrimentally affect it. Teacher leadership shows a small but significant positive correlation with learner achievement ($r = .17$), with the highest effects in curriculum improvements ($r = .23$) and professional development ($r = .16$). The synergy between teacher leadership and positive relationships maximizes learner achievement. The findings support the initial hypotheses and align with previous research, underscoring the importance of collaborative school environments and teacher development. Despite the study's high heterogeneity, potential publication bias, and measurement inconsistencies, the implications suggest prioritizing professional development, fostering collaborative cultures, and empowering teacher leadership to enhance educational outcomes. Future research should explore longitudinal studies, context-specific investigations, and standardized measures. This meta-synthesis highlights the crucial role of teacher leadership and positive teacher-learner relationships in promoting academic achievement, advocating integrated strategies for effective learning environments.

Keywords: Academic Performance, Meta-Synthesis, Teacher Leadership, Teacher-Learner Associations

INTRODUCTION

The academic success of learners is shaped by multiple factors, encompassing personal traits, study habits, and the relationships they form with their teachers. Given that schools are environments characterized by dense human interaction, effective management of these relationships is paramount. Central to educational success are the interactions between teachers and their various stakeholders, including learners, colleagues, and administrators. These interactions play a critical role in influencing the educational process and overall performance of schools.

Recent research has delved into various facets of teacher relationships, investigating aspects such as teacher efficacy and its impact on learner achievement (Çoğaltay & Karadağ, 2017; Eells, 2011; Kim & Seo, 2018), the influence of professional teacher communities on learner outcomes (Lomos, Hofman & Bosker, 2011), the role of instructional interactions (Nurmi, 2012), and the connections between engagement and achievement (Roorda & Koomen, 2011). Other studies have explored teaching clarity (Titsworth, Mazer, Goodboy, Bolkan, & Myers, 2015), the effects of expectations (Danişman, 2017), teacher autonomy (Hooper, 2018), leadership roles (Shen, Wu, Reeves, Zheng, Ryan, & Anderson, 2020; Uysal & Sarier, 2018), and the impact of personality and burnout on teaching effectiveness (Kim, Jörg, & Klassen, 2019; Madigan & Curran, 2020). Further research has highlighted the importance of teacher support (Tao, Meng, Gao & Yang, 2022) and the influence of learner adjustment to school environments (Roorda, Zee & Koomen, 2020). These studies typically utilize analytical frameworks to scrutinize specific types of teacher relationships.

This study adopts a more comprehensive approach by examining multiple sub-dimensions of teacher relationships, such as teacher-learner interactions, relationships among colleagues, relations with school principals, and aspects related to teacher personality, self-efficacy, and burnout. Understanding these sub-dimensions is crucial for identifying factors that influence learner achievement and for guiding teachers in fostering effective relationships within the school community.

Teacher leadership, which involves teachers influencing their peers, principals, and other school community members to enhance teaching and learning practices, has also garnered significant attention (York-Barr & Duke, 2004). Teacher leaders contribute not only by teaching learners but also by driving school improvement (Danielson, 2006; Wenner & Campbell, 2017). Despite its importance, the empirical research linking teacher leadership to learner achievement is still limited (Muijs & Harris, 2007; Wenner & Campbell, 2017; York-Barr & Duke, 2004). This study seeks to bridge this gap by conducting a meta-analysis on the relationship between teacher leadership and learner achievement. By integrating insights from the analysis of teacher relationships and teacher leadership, this meta-synthesis aims to provide a holistic understanding of how these factors jointly affect learner academic achievement. The findings will offer valuable guidance for educational practitioners and policymakers.

in crafting strategies to enhance both teacher relationships and leadership, ultimately aiming to improve learner outcomes.

York-Barr and Duke (2004) defined seven dimensions of teacher leadership: coordination and management, curriculum work, professional development, participation in school change, involvement with parents and the community, contributions to the profession, and preservice teacher education. The Teacher Leader Model Standards (2011) expand on this framework by categorizing teacher leadership into domains such as fostering a collaborative culture, applying research to improve practice, promoting professional learning, improving instruction, using assessments, engaging with families and communities, and advocating for learner learning.

Literature Review

Teacher Relationship Types

In this study, teacher connections are divided into two categories: intrapersonal and interpersonal relationships. Intrapersonal connections refer to an teacher's inner life and ideas, which include factors such as self-efficacy, positive and negative self-perception, and personal interactions. Interpersonal connections, on the other hand, are exchanges between an teacher and other members of the school community, such as teacher-learner and teacher-school community ties.

Intrapersonal Relationships

Intrapersonal relationships in teachers refer to qualities related to their self-concept. Key components include self-efficacy, positive and negative self-perception, and personal interactions. Characteristics such as teacher personality, self-efficacy, and teacher burnout significantly influence learner achievement. Positive intrapersonal relations can enhance learner performance, while negative ones may hinder it.

Teacher Personality

Teacher personality involves traits that affect teaching through thoughts, emotions, and actions (Pervin, Cervone, & John, 2005). Teachers who possess strong social bonds and enjoy interaction are more likely to develop positive relationships with themselves and their surroundings.

Teacher Self-Efficacy

Self-efficacy among teachers pertains to their confidence in their capacity to inspire unmotivated learners to reach educational objectives. Self-efficacious teachers have confidence in their ability to

succeed, which in turn motivates and inspires their students (Tschannen-Moran & Woolfolk Hoy, 2001).

Teacher Burnout

Teacher burnout is defined by psychological exhaustion and a reduced motivation to participate in teaching activities, typically evident through fatigue, pessimism, and a decline in perceived efficacy (Maslach, Jackson, Leiter, Schaufeli, & Schwab, 1986). Teachers prone to stress and introversion may encounter burnout, adversely impacting their environment and student performance.

Interpersonal Relationships

Interpersonal relationships among teachers include interactions with learners and the broader school community. Constructive interpersonal associations are predictable to improve learner achievement, while negative relationships may have detrimental effects.

Teacher-Learner Relationship

Effective teacher-learner relationships foster learners' civic learning and sense of well-being, contributing to their positive identity development (Chhuon & Wallace, 2014). Positive relationships are marked by high intimacy and low conflict, whereas negative relationships exhibit the opposite traits (Hughes, 2011; Pianta, 2001; Pianta & Stuhlman, 2004). Emotional support in teacher-learner interactions helps learners articulate their social, emotional, and academic needs (Allen et al., 2013; Hafen et al., 2015).

Teacher-School Community Relationships

Within a school community, teachers interact with learners, school leaders, and parents, all collaborating towards shared goals. Positive relationships with colleagues, administrators, and parents can enhance professional development and instructional quality. School principals play a crucial role in fostering teacher cooperation and creating a positive school climate (Vangrieken et al., 2015). Furthermore, positive teacher-parent relations can improve a teacher's effectiveness, subsequently leading to better learner outcomes (Chung et al., 2005).

Teacher Leadership

Teacher leadership has expanded beyond traditional managerial roles to include a wider range of responsibilities, such as mentoring colleagues, addressing school-level challenges, and fostering professional development (Silva, Gimbert, & Nolan, 2000; Smylie & Denny, 1990; Lovett, 2018;

Wenner & Campbell, 2017). Every Learner Succeeds Act (ESSA) (2015) and similar initiatives have highlighted the crucial role of teacher leadership in enhancing learner outcomes.

Definition and Theoretical Frameworks

Teacher leadership is defined as "teacher agency through establishing relationships, breaking down barriers, and marshalling resources to improve learners' educational experiences and outcomes" (York-Barr & Duke, 2004). This concept involves promoting professional learning, shared decision-making, and facilitating school-wide improvements (Wenner & Campbell, 2017).

The notion of teacher leadership also includes theories like teacher empowerment and distributed leadership. Teacher empowerment reflects both social structural and psychological aspects, highlighting teachers' influence on school decisions and their psychological state (Lee & Nie, 2014; Marks & Louis, 1997). Distributed leadership views leadership as a collective phenomenon that requires the joint efforts of multiple actors (Spillane, 2005).

Visual Summary of Theoretical Framework

To clarify the theoretical framework used in this study, here is a table summarizing its dimensions:

Theory	Definition	Key Dimensions	Application in Study
Teacher Leadership	Teacher agency through establishing relationships, breaking down barriers, and marshalling resources to improve learners' educational experiences and outcomes (York-Barr & Duke, 2004).	- Promoting professional learning	Improving learners' educational experiences and outcomes through teacher leadership.
Teacher Empowerment	Reflects both social structural and psychological aspects, highlighting teachers' influence on school decisions and their psychological state (Lee & Nie, 2014; Marks & Louis, 1997).	- Social structural - Psychological aspects	Impacting school decisions and teachers' psychological state.
Distributed Leadership	Leadership as a collective phenomenon that requires the joint efforts of multiple actors (Spillane, 2005).	- Collective phenomenon - Joint efforts	Enhancing collaboration and collective efforts to improve school.

In this study, the concept of "teacher leadership" serves as the primary theoretical framework. Defined by York-Barr and Duke (2004), it focuses on promoting professional learning, shared decision-making, and facilitating school-wide improvements. Additionally, theories of "teacher empowerment" and "distributed leadership" are examined to provide a comprehensive understanding of the dimensions of teacher leadership.

Dimensions of Teacher Leadership

According to York-Barr and Duke (2004), there are seven different aspects of teacher leadership: coordination and administration, curriculum work, professional development, engagement in school transformation, connection with parents and the community, contributions to the profession, and preservice teacher education. This framework is further refined by the Teacher Leader Model Standards (2011), which classify teacher leadership into a variety of domains, including fostering a culture of collaboration, utilizing research to improve practice, promoting professional learning, enhancing instruction, utilizing assessments, engaging with families and communities, and advocating for learner learning.

While significant research has addressed various aspects of teacher leadership and its impact on educational outcomes, there remains a gap in synthesizing these findings comprehensively, particularly in the context of English language teaching. This study aims to fill that gap by conducting a meta-synthesis of existing research on the effects of English teacher leadership and teacher-learner associations on academic performance.

Research Questions

1. What is the impact of different types of teacher relationships on learner academic achievement?
2. What is the impact of teacher leadership on learner academic performance?
3. What is the combined impact of teacher relationships and teacher leadership on learner academic performance?

Hypotheses

1. Positive teacher-learner relationships positively impact learner academic performance.
2. Teacher leadership positively impacts learner academic performance.
3. The combined effect of teacher-learner relationships and teacher leadership has a greater impact on learner academic performance than the individual effects of these factors.

This research is significant because it merges two pivotal aspects of education—teacher leadership and teacher-learner relationships. The findings can contribute to enhancing educational strategies and developing new methods to boost learner academic achievement.

Methodology

In this study, we utilize a meta-synthesis approach to investigate the combined effects of teacher leadership and teacher-learner relationships on academic performance. Meta-synthesis involves integrating findings from numerous meta-analyses and qualitative studies, offering a thorough and cohesive understanding of the research topic.

Inclusion and Exclusion Criteria

When choosing papers for inclusion in our meta-analysis, we made sure to adhere to the following inclusion criteria in order to guarantee the reliability and applicability of our finding:

1. The studies that were required to study the connection between the leadership of teachers and/or the relationships between teachers and students and the extent to which students accomplish academically.
2. It was necessary for the research to be framed from the standpoint of teacher leadership, teacher-learner interactions, or other notions that are connected to these.
3. The selected studies had to be quantitative meta-analyses or qualitative studies with sufficient data to calculate effect sizes.
4. The studies included were those published between 2010 and 2022 and available in English or Turkish.
5. Primary studies within meta-analyses should not involve interventions to ensure consistency in data analysis.

Data Collection

For the purpose of this investigation, the meta-analyses were gathered from a number of different electronic databases. These databases included Academic Search Ultimate, ERIC, Google Scholar, Open Dissertations, ProQuest, PsycNet, Scopus, and Web of Science. During the search process, many keywords were applied, including "teacher leadership," "teacher-learner relationship," "academic achievement," "learner outcomes," and "meta-analysis." PRISMA, which stands for Preferred Reporting Items for Systematic Reviews and Meta-Analyses, was the process that we followed in order to guarantee that we covered everything available. This thorough approach started with an initial screening of titles and abstracts, and then it was followed by a review based on consensus to determine which research were chosen for further consideration.

Coding Procedure

The selected studies were systematically coded based on several key characteristics:

- **Study Characteristics:** Information such as publication type, year of publication, and country of origin were documented.
- **Teacher Leadership Constructs:** Elements like leadership theory and specific dimensions of teacher leadership were noted.
- **Teacher Relationship Types:** Various types were categorized, including intrapersonal relationships, teacher-learner relationships, and teacher-school community relationships.
- **Learner Outcome Measures:** Metrics of learner achievement and relevant content areas were recorded.
- **Sample Characteristics:** Details about the school level and sample size were collected.
- **Effect Size Information:** Data pertinent to effect sizes were included.

To evaluate the quality of the studies, we used the Revised Assessment of Multiple Systematic Reviews (R-AMSTAR) scale. The studies were scored on a range from insufficient to high quality based on this scale.

Statistical Model and Analysis

In light of the fact that the characteristics of the samples and the designs of the studies might vary, we decided to conduct the statistical analysis using a random effects model. As the measure for determining the extent of the effect, the Pearson correlation coefficient (r) was selected. Through the utilization of well-established transformation formulae, several other metrics of impact size were transformed into correlations. For the purpose of aggregating these effect sizes and carrying out the study, the Comprehensive Meta-study program (CMA.2) was applied.

Publication Bias and Heterogeneity

To evaluate publication bias, we employed Egger's regression test alongside Duval & Tweedie's Trim and Fill analysis. To determine the overall heterogeneity of the data set, we utilized Q statistics and I² statistics, which provided insights into the extent of variability present. Additionally, subgroup and moderator analyses were performed to identify the sources of heterogeneity and to examine the influence of various moderator variables.

Results

Research Question 1: What is the relationship between different types of teacher relationships and learner academic achievement?

The examination comprised 18 meta-analyses, which collectively involved 405 primary studies. The average effect size for positive teacher relationship types and learner academic achievement was $ES = .24$, suggesting a medium effect size. The most substantial effect size recorded was $ES = .60$, categorized as very large, whereas the least was $ES = .01$, categorized as very small. An effect size of

.24 indicates a moderate positive correlation between positive teacher relationship types and learner academic achievement. This suggests that improvements in the quality of positive teacher relationships are associated with a moderate increase in learner academic achievement. The Q statistic was determined to be $Q = 531.77$ ($p < .01$), while the I2 statistic was 96.80. This indicates a significant degree of heterogeneity, suggesting considerable variability in effect sizes among the various studies.

Funnel plot analysis and Egger's regression test indicated no significant publication bias ($t = .61$, $p = .55$). The DTF test showed negligible publication bias, with an adjusted effect size of $ES = .25$ (LL = .18, UL = .31). The absence of significant publication bias suggests that the results are robust and not influenced by the selective publication of studies with positive findings. The moderator and heterogeneity analyses showed that positive intrapersonal relationships have a weak impact on learner achievement ($ES = .18$), positive teacher-learner relationships have a moderate impact ($ES = .23$), and positive teacher-school community relationships have a very strong impact ($ES = .38$). This highlights the importance of a supportive school community for academic success.

Regarding negative teacher relationship types and their impact on academic achievement, the analysis included 7 meta-analyses, covering 87 primary studies. The mean effect size for negative teacher relationship types and learner academic achievement was $ES = -.16$, indicating a small negative effect. The largest negative effect size was $ES = -.26$, classified as medium, while the smallest was $ES = -.05$, classified as very small. An effect size of $-.16$ suggests a weak negative correlation between negative teacher relationship types and learner academic achievement, meaning that as the quality of negative teacher relationships increases, learner academic achievement tends to decrease slightly. The Q statistic for this analysis was calculated at $Q = 23.30$ ($p < .01$), and the I2 statistic was 74.25, indicating a moderate level of heterogeneity.

Funnel plot analysis and Egger's regression test indicated no significant publication bias ($t = .38$, $p = .72$), and the DTF test confirmed no significant publication bias, suggesting that the results are reliable and not affected by selective publication. The moderator and heterogeneity analyses showed that negative intrapersonal relationships have a moderate impact on reducing learner achievement ($ES = -.26$), while negative teacher-learner relationships have a weak impact ($ES = -.14$). These findings support Hypothesis 1, confirming that positive teacher-learner relationships positively impact learner academic achievement, while negative relationships have adverse effects.

Research Question 2: How does teacher leadership influence learner academic achievement ?

The overall analysis revealed an effect size (r) of .17 (95% CI: .127–.246), indicating a small but significant positive correlation between teacher leadership and learner academic achievement. This suggests that teacher leadership is associated with slight improvements in learner performance.

When examining specific content areas, teacher leadership showed a moderate positive effect on math achievement, with an effect size (r) of .24 ($p < .001$). This underscores the strong influence of teacher leadership in subjects that require structured and guided instruction. For reading achievement, the effect size was (r) .18 ($p = .039$), indicating a small positive effect. While the impact on reading is less pronounced than on math, it still highlights the beneficial role of teacher leadership in fostering literacy skills.

Analyzing different dimensions of teacher leadership, "facilitating improvements in curriculum, instruction, and assessment" emerged as the strongest dimension, with an effect size (r) of .23. This dimension significantly influences learner achievement, underscoring the importance of teacher leadership in curriculum and instructional improvements. Additionally, promoting teacher professional development showed a substantial positive effect, with an effect size (r) of .16. This suggests that teacher leadership in professional development greatly benefits learner academic outcomes. Other dimensions of teacher leadership showed effect sizes ranging from (r) .15 to .23, all indicating positive correlations. This underscores the overall beneficial impact of various aspects of teacher leadership on learner outcomes.

In conclusion, the findings for Research Question 2 support Hypothesis 2, confirming that teacher leadership positively impacts learner academic achievement. These results highlight the multifaceted role of teacher leadership in enhancing various aspects of learner performance.

Research Question 3: How do these factors interact to affect learner outcomes?

Combined Effect

The analysis of the combined effects reveals that teacher-school community relationships, when coupled with strong teacher leadership, show a particularly high effect size. This underscores the importance of a supportive and collaborative school environment in maximizing learner academic success. Effective teacher leadership not only enhances teacher-school community relationships but also significantly boosts the overall academic performance of learners.

In terms of teacher-learner relationships, when supported by effective teacher leadership, positive interactions between teachers and learners result in better academic outcomes. The synergy between positive teacher relationships and effective leadership creates an optimal environment for learner learning. This combined influence highlights the critical role of both elements in fostering a conducive learning atmosphere.

These findings support Hypothesis 3, indicating that the combined effect of teacher-learner relationships and teacher leadership has a greater impact on learner academic achievement than the individual effects of these factors. The evidence suggests that integrating both strong teacher-learner

relationships and effective leadership practices can create a powerful synergy, leading to improved academic results for learners.

Discussion and conclusion

In this meta-synthesis, we investigated the combined influence of teacher leadership and teacher-learner relationships on learner academic achievement. The results offer valuable insights into the interaction between these factors and their overall impact on educational outcomes.

Alignment with Initial Hypotheses and Research Objectives

The findings of this study align well with the initial hypotheses and research objectives. Hypothesis 1, which posited that positive teacher-learner relationships positively impact learner academic achievement, was supported. The data revealed that positive teacher relationships, particularly those within the school community, significantly enhance learner achievement. Similarly, Hypothesis 2, which asserted that teacher leadership positively impacts learner academic achievement, was confirmed. The analysis demonstrated a small but significant positive correlation between teacher leadership and learner achievement. Hypothesis 3 proposed that the combined effect of teacher-learner relationships and teacher leadership would have a greater impact on learner academic achievement than the individual effects of these factors. This hypothesis was validated by the findings, indicating that the interplay between teacher-learner relationships and teacher leadership creates an optimal learning environment that maximizes learner performance.

Comparison with Previous Research

findings are consistent with previous research while also providing new insights. Earlier studies, such as those by York-Barr and Duke (2004) and Wenner and Campbell (2017), highlighted the importance of teacher leadership but noted the limited empirical evidence linking it to learner achievement. Our study contributes empirical support for the positive impact of teacher leadership on learner outcomes, reinforcing the conclusions of these earlier reviews. Additionally, previous research by Jennings and Greenberg (2009) and Göncz et al. (2014) emphasized the significance of positive teacher-learner relationships. Our results confirm these findings and further underscore the critical role of teacher-school community relationships in enhancing academic achievement. While many studies have explored teacher leadership and relationships independently, few have examined their combined effects. Our meta-synthesis demonstrates that the interaction between these factors has a more substantial impact on learner achievement than previously understood.

Limitations

This study has several limitations that may affect the interpretation of the results. First, the high level of heterogeneity in the included studies suggests substantial variability in effect sizes. This

variability may arise from differences in study designs, sample characteristics, and contexts. Second, although the analysis indicated no significant publication bias, the possibility of selective publication cannot be entirely ruled out. Third, the meta-analyses cover a range of educational contexts and levels, which may limit the generalizability of the findings to specific settings or populations. Finally, variations in how teacher leadership and relationships are measured across studies could impact the consistency of the results.

Recommendations for Future Research

Based on the findings and limitations of this study, several recommendations for future research are proposed. First, conducting longitudinal studies would help to examine the long-term effects of teacher leadership and relationships on learner achievement. Second, exploring the impact of these factors in different educational contexts, such as rural versus urban schools, would provide a better understanding of contextual variations. Third, developing and evaluating interventions aimed at enhancing teacher leadership and relationships could determine their effectiveness in real-world settings. Lastly, establishing standardized measures for assessing teacher leadership and relationships would improve the comparability of future studies.

Conclusion

This meta-synthesis underscores the critical role of teacher leadership and positive teacher-learner relationships in fostering academic achievement. By synthesizing findings from multiple studies, it becomes evident that both factors independently and synergistically contribute significantly to learners' academic success. The positive impact of teacher-learner relationships within the school community and the small but significant effects of teacher leadership on learner achievement highlight the need for educational strategies that prioritize these elements.

The importance of these findings lies in their potential to inform educational policy and practice. By understanding the pivotal role of teacher leadership and effective teacher-learner relationships, educators, administrators, and policymakers can make informed decisions to enhance the educational environment. This means creating policies and professional development programs that focus on building strong, positive relationships between teachers and students and empowering teachers with leadership opportunities.

The results of this study have several practical implications for educational practice. Schools should invest in professional development programs that focus on building positive interpersonal and intrapersonal skills among teachers. Training teachers in leadership and relationship-building can

enhance their effectiveness and positively impact learner achievement. School leaders should promote a collaborative and supportive school culture, encouraging positive relationships between teachers, learners, and the broader school community. This can create an environment conducive to learning and academic success. Empowering teachers to take on leadership roles can significantly enhance curriculum and instructional practices, leading to improved learner outcomes. Schools should provide opportunities for teachers to engage in leadership activities and support their professional growth.

References

- Ateş, A., & Ünal, A. (2021). The relationship between teacher academic optimism and student academic achievement: A meta-analysis. *Psycho-Educational Research Reviews*, 10(2). https://doi.org/10.52963/PERR_Biruni_V10.N2.20
- Bardach, L., & Klassen, R. M. (2020). Smart teachers, successful students? A systematic review of the literature on teachers' cognitive abilities and teacher effectiveness. *Educational Research Review*, 30, 100312. <https://doi.org/10.1016/j.edurev.2020.100312>
- Borenstein, M., Hedges, L. V., Higgins, J. P., & Rothstein, H. R. (2011). *Introduction to meta-analysis*. West Sussex: John Wiley & Sons.
- Cooper, H., & Koenka, A. C. (2012). The overview of reviews: Unique challenges and opportunities when research syntheses are the principal elements of new integrative scholarship. *American Psychologist*, 67(6), 446-462. <https://doi.org/10.1037/a0027119>
- Funder, D.C., & Ozer, D. J. (2019). Evaluating effect size in psychological research: Sense and nonsense. *Advances in Methods and Practices in Psychological Science*. 2(2). 156-168. <https://doi.org/10.1177/2515245920979282>
- Hascher, T., & Waber, J. (2021). Teacher well-being: A systematic review of the research literature from the year 2000–2019. *Educational Research Review*, 34, 100411. <https://doi.org/10.1016/j.edurev.2021.100411>
- Jin, Z. C., Zhou, X. H., & He, J. (2015). Statistical methods for dealing with publication bias in meta-analysis. *Statistics in Medicine*, 34(2), 343-360. <https://doi.org/10.1002/sim.6342>
- Kilduff, M., & Tsai, W. (2003). *Social network and organization*. Sage. <https://doi.org/10.3835/9781849209915>
- Klassen, R. M., & Tze, V. M. (2014). Teachers' self-efficacy, personality, and teaching effectiveness: A meta-analysis. *Educational Research Review*, 12, 59-76. <https://doi.org/10.1016/j.edurev.2014.06.001>
- Kung, J., Chiappelli, F., Cajulis, O. O., Avezova, R., Kossan, G., Chew, L., & Maida, C. A. (2010). From systematic reviews to clinical recommendations for evidence-based health care: Validation of revised assessment of multiple systematic reviews (R-AMSTAR) for grading of clinical relevance. *The Open Dentistry Journal*, 4, 84-91. <https://doi.org/10.2174/1874210601004020084>
- Madigan, D. J., & Kim, L. E. (2021). Does teacher burnout affect students? A systematic review of its association with academic achievement and student-

reported outcomes. *International Journal of Educational Research*, 105, 101714. <https://doi.org/10.1016/j.ijer.2020.101714>

Oh, I. S. (2020). Beyond meta-analysis: Secondary uses of meta-analytic data. *Annual Review of Organizational Psychology and Organizational Behavior*, 7, 125-153. <https://doi.org/10.1146/annurev-orgpsych-012119-045006>

Page, M. J., Sterne, J. A., Higgins, J. P., & Egger, M. (2021). Investigating and dealing with publication bias and other reporting biases in meta-analyses of health research: A review. *Research Synthesis Methods*, 12(2), 248-259. <https://doi.org/10.1002/jrsm.1468>

Rothstein, H. R., Sutton, A. J., & Borenstein, M. (2005). Publication Bias In Meta-Analysis. Publication bias in meta-analysis: Prevention, assessment, and adjustments. John Wiley & Sons.

Schmidt, F. L., & Oh, I. S. (2013). Methods for second-order meta-analysis and illustrative applications. *Organizational Behavior and Human Decision Processes*, 121(2), 204–218. <https://doi.org/10.1016/j.obhdp.2013.03.002>

Shouse, R. (1996). Academic press and sense of community: Conflict, congruence, and implications for student achievement. *Social Psychology of Education*, 1(47), 47–68. <https://doi.org/10.1007/bf02333405>

Stephanou, G. (2014). Feelings for child-teacher relationship. and emotions about the teacher in kindergarten: Effects on learning motivation. competence beliefs and performance in mathematics and literacy. *European Early Childhood Education Research Journal*, 22(4), 457-477. <https://doi.org/10.1080/1350293x.2014.947830>

Stephanou, G., & Doulkeridou, M. (2020). Parental competence beliefs and attributions for achievement in kindergarten: Effects on parent expectations for later school achievement. *International Journal of Social Science Research*, 8(2),199-224. <https://doi.org/10.5296/ijssr.v8i2.16766>

Uysal, S., & Sarier, Y. (2018). Teacher leadership effects on student achievement and student satisfaction: A meta-analysis of the studies published in Turkey and the USA. *Croatian Journal of Education*, 21(3), 989-1010. <https://doi.org/10.15516/cje.v21i3.3257>

Vandenbroucke, L., Spilt, J., Verschueren, K., Piccinin, C., & Baeyens, D. (2018). The classroom as a developmental context for cognitive development: A meta-analysis on the importance of teacher–student interactions for children’s executive functions. *Review of Educational Research*, 1(40). <https://doi.org/10.3102/0034654317743200>

Von der Embse, N., Ryan, S. V., Gibbs, T., & Mankin, A. (2019). Teacher stress interventions: A systematic review. *Psychology in the Schools*, 56(8), 1328-1343. <https://doi.org/10.1002/pits.22279>

Young, J. (2017). Technology-enhanced mathematics instruction: A second-order meta-analysis of 30 years of research. *Educational Research Review*, 22, 19-33. <https://doi.org/10.1016/j.edurev.2017.07.001>

York-Barr, J., & Duke, K. (2004). What do we know about teacher leadership? Findings from two decades of scholarship. *Review of Educational Research*, 74(3), 255–316. <https://doi.org/10.3102/00346543074003255>

Young, J. (2017). Technology-enhanced mathematics instruction: A second-order meta-analysis of 30 years of research. *Educational Research Review*, 22, 19-33. <https://doi.org/10.1016/j.edurev.2017.07.001>

Appendix A: Used Studies

Ateş, A., & Ünal, A. (2021). The relationship between teacher academic optimism and student academic achievement: A meta-analysis. *Psycho-Educational Research Reviews*, 10(2).

Boudreaux, W. (2011). *Distributed leadership and high-stakes testing: Examining the relationship between distributed leadership and LEAP scores* (Publication No. 3482420) [Doctoral dissertation, Southeastern Louisiana University]. ProQuest Dissertations & Theses Global.

Burr, B. J. W. (2003). *Teacher leadership: Is it related to student achievement?* (Publication No. 3095418) [Doctoral dissertation, Texas A&M University]. ProQuest Dissertations & Theses Global.

Calderone, S., Kent, A. M., & Green, A. M. (2018). Teacher leaders and student achievement: Can the dots be connected?. *Revista Eletro^nica de Educaçã~o*, 12(2), 395–407.

Çoğaltay, N., & Karadağ, E. (2017). The effect of collective teacher efficacy on student achievement. In E. Karadağ (Ed.). *The factors effecting student achievement* (pp. 215-226). Springer.

Cohron, W. R. (2009). *The effect of teacher leader interactions with teachers on student achievement: A predictive study*. Publication No. 3370064) [Doctoral dissertation, University of Louisville]. ProQuest Dissertations & Theses Global.

Conway, P. R. (2001). *The relationship among teacher empowerment, teacher beliefs, teacher demographics, and second grade reading achievement* (Publication No. 3012962) [Doctoral dissertation, University of Missouri-Columbia]. ProQuest Dissertations & Theses Global.

Cope, F. F. (2017). *The relationship between teacher empowerment in decision making, and teachers' professional intentions, teacher satisfaction, and student achievement* (Publication No. 10669644) [doctoral dissertation, the university of memphis]. ProQuest Dissertations & Theses Global.

Danişman, Ş. (2017). The effect of expectation on student achievement. In E. Karadağ (Ed.). *The factors effecting student achievement* (pp. 227-246). Springer

Davis, M. W. (2009). *Distributed leadership and school performance* (Publication No. 3344534) [Doctoral dissertation, The George Washington University]. ProQuest Dissertations and Theses Global.

Eells, R. J. (2011). *Meta-analysis of the relationship between collective teacher efficacy and student achievement*. Unpublished doctoral dissertation, Loyola University, Chicago, USA.

Givens, K. L. (2013). *A new look at distributive leadership in title I and non-title I schools: Does distributive leadership impact student achievement and school culture?* (Publication No. 3585034) [Doctoral dissertation, Florida Atlantic University]. ProQuest Dissertations & Theses Global.

Hooper, S.M.Y. (2018). *Meta-analysis of teacher autonomy support and control*. Unpublished doctoral dissertation, The University of Texas, Austin, USA.

Iarussi, R., & Larwin, K. H. (2015). The impact of a teacher leader model of professional development for common core state standards implementation on student achievement. *Perspectives: A Journal of Research and Opinion about Educational Service Agencies*, 21(1), 1–30.

Jackson-Crossland, B. (2000). *The relationships between teacher empowerment, teachers' sense of responsibility for student outcomes, and student achievement* (Publication No. 9974618) [Doctoral dissertation, University of Missouri – Columbia]. ProQuest Dissertations & Theses Global.

Kim, K.R., & Seo, E.H. (2018). The relationship between teacher efficacy and students' academic achievement: A meta-analysis. *Social Behavior and Personality*, 46(4), 529– 540. <https://doi.org/10.2224/sbp.6554>

Kim, L.E., Jörg, V., & Klassen, R.M. (2019). A Meta-analysis of the effects of teacher personality on teacher effectiveness and burnout. *Educational Psychology Review*, 31, 163–195. <https://doi.org/10.1007/s10648-018-9458-2>

Leithwood, K., & Mascall, B. (2008). Collective leadership effects on student achievement. *Educational Administration Quarterly*, 44(4), 529–561.

Lomos, C., Hofman, R.H., & Bosker, R. J. (2011). Professional communities and student achievement – a meta-analysis. *School Effectiveness and School Improvement*, 22(2), 121-148. DOI: 10.1080/09243453.2010.550467

Louis, S. K., 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.

Madigan, D.J., & Curran, T. (2020). Does burnout affect academic achievement? A meta analysis of over 100.000 students. *Educational Psychology Review*, 33, 387-405. <https://doi.org/10.1007/s10648-020-09533-1>

Marks, H. M., & Louis, K. S. (1997). Does teacher empowerment affect the classroom? The implications of teacher empowerment for instructional practice and student academic performance. *Educational Evaluation and Policy Analysis*, 19(3), 245–275.

Nesmith, B. S. (2011). *An investigation of National Board Certified Teachers' perceptions of teacher leadership dimensions on school support for teacher leadership involvement in high- and low-performing elementary schools in South Carolina* (Publication No. 3489199) [Doctoral dissertation, South Carolina State University]. ProQuest Dissertations & Theses Global.

Phillips, D. R. (2009). *Quantitative study of the correlation of teacher leadership and teacher self-efficacy on student reading outcomes* (Publication No. 3364170) [doctoral dissertation, university of phoenix. ProQuest Dissertations & Theses Global.

Roorda, D.L., & Koomen, H.M.Y. (2011). The influence of affective teacher-student relationships on students' school engagement and achievement: A meta-analytic approach. *Review of Educational Research*, 81(4), 493-529. DOI: 10.3102/0034654311421793

Roorda, D.L., Zee, M., & Koomen, H.M.Y. (2020). Don't forget student-teacher dependency! A Meta-analysis on associations with students' school adjustment and the moderating role of student and teacher characteristics. *Attachment & Human Development*, 23(5), 490-503. DOI: 10.1080/14616734.2020.1751987

Sebastian, J., Allensworth, E., & Huang, H. (2016). The role of teacher leadership in how principals influence classroom instruction and student learning. *American Journal of Education*, 123(1), 69–108.

Sebastian, J., Huang, H., & Allensworth, E. (2017). Examining integrated leadership systems in high schools: Connecting principal and teacher leadership to organizational processes and student outcomes. *School Effectiveness and School Improvement*, 28(3), 463–488.

Shen, J., Wu, H., Reeves, P., Zheng, Y., Ryan, L., & Anderson, D. (2020). The association between teacher leadership and student achievement: A meta-analysis. *Educational Research Review*, 31. <https://doi.org/10.1016/j.edurev.2020.100357>

Squire-Kelly, V. D. (2012). *The Relationship between teacher empowerment and student achievement* [Doctoral dissertation. Georgia Southern University <https://digitalcommons.georgiasouthern.edu/etd/406>.

Sugg, S. A. (2013). *The relationship between teacher leadership and student achievement* (Publication No. 3605485) [Doctoral dissertation, Eastern Kentucky University], ProQuest Dissertations & Theses Global.

Sweetland, S. R., & Hoy, W. K. (2000). School characteristics and educational outcomes: Toward an organizational model of student achievement in middle schools. *Educational Administration Quarterly*, 36(5), 703–729.

Tao, Y., Meng, Y., Gao, Z., & Yang, X. (2022). Perceived teacher support. student engagement. and academic achievement: A meta-analysis. *Educational Psychology*, 42(4), 401-420. DOI: 10.1080/01443410.2022.2033168

Terrell, H. P. (2010). *The relationship of the dimensions of distributed leadership in elementary schools of urban districts and student achievement* (Publication No. 3397678) [Doctoral dissertation, George Washington University]. ProQuest Dissertations & Theses Global.

Titsworth, S., Mazer, J.P., Goodboy. A.K., Bolkan. S., & Myers, S.A. (2015) Two meta-analyses exploring the relationship between teacher clarity and student learning. *Communication Education*, 64(4), 385-418. DOI: 10.1080/03634523.2015.1041998

Uysal, S., & Sarier, Y. (2018). Teacher leadership effects on student achievement and student satisfaction: A meta-analysis of the studies published in Turkey and the USA. *Croatian Journal of Education*, 21(3), 989 -1010. <https://doi.org/10.15516/cje.v21i3.3257>

Vandenbroucke, L., Spilt, J., Verschueren. K., Piccinin. C., & Baeyens, D. (2018). The classroom as a developmental context for cognitive development: A meta-analysis on the importance of teacher–student interactions for children’s executive functions. *Review of Educational Research*, 1–40. DOI: 10.3102/0034654317743200

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