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The Influence of the National Culture on the Association Between School Leadership and Teacher Commitment: A Systematic Review and Meta-Analysis

Abdullah Selvitopu*
Karamanoğlu Mehmetbey University, Karaman, Türkiye

Metin Kaya
Istanbul Medipol University, Istanbul, Türkiye

Ahmet Taylan Aydın
Ankara University, Ankara, Türkiye

Abstract

The present study was an attempt to examine the influence of national culture on the association between school leadership and teacher commitment. We systematically reviewed the literature on school leadership and teacher commitment, then followed a meta-analytic process by combining the data from the included studies and finally conducted meta-regression procedures to identify the main cultural predictors of the association between the two variables using Hofstede's (2011) theoretical model of cultural dimensions. Our findings suggest that there is a moderate positive relationship between school leadership and teacher commitment, that certain leadership styles are important in this relationship, and that power distance and individualism have negative influences on this association. Masculinity, uncertainty avoidance, long-term orientation and indulgence dimensions do not influence the association between school leadership and teacher

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*Corresponding author
E-mail: aselvi@kmu.edu.tr

commitment. We discussed the research findings and proposed recommendations for future research.

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Introduction

Over the past 50 years, extensive research has been conducted on the themes of leadership and organizational commitment in various fields. One possible reason for that tendency, as Chen et al., (2010) emphasized, may be the significant correlation between leadership styles and organizational commitment. This tendency continues in a similar way in the educational context that researchers, NGOs or governments have largely focused on the association between school leadership and teacher commitment with policy documents and reports to ensure school effectiveness (Beatriz et al., 2008; Biamba & Odero, 2016; OECD, 2013).

Teacher commitment is crucial for ensuring the optimal functioning of the educational institution (Dee et al., 2006) and is affected by school leadership as a vast amount of research evidence has suggested (Bellibaş et al., 2022; Nguni et al., 2006). When considering the association between school leadership and teacher commitment, it is important to take national culture into account because the cultural

context can play a key role in this association. The literature includes studies focused on the leadership and cultural contexts (Blair, 2002; Miller, 2018), or commitment and cultural differences (Abd Razak et al., 2010), however, there has been limited research that combines school leadership and teacher commitment while synthesizing results within the context of cultural dimensions (Jackson et al., 2013). Thus, it is necessary to estimate and compare the effects of cultural dimensions on the association between school leadership and teacher commitment using systematic review and meta-regression procedures. By doing so, this study is an attempt to examine the influence of the national culture on the association between school leadership and teacher commitment, and to present a holistic perspective for that association which is crucial for supporting school outcomes.

Theoretical perspective

Teacher commitment and its importance to schools

In organizational research, commitment is a significant area of interest among various work-related attitudes as it has organizational and individual level outcomes including a higher performance, a lower level of employee turnover, and an intention to stay in an organization. (Meyer & Allen, 1997). Therefore, understanding the nature and determinants of employee commitment is crucial for organizations to effectively manage their workforce. The literature on organizational commitment includes various theoretical classifications (Allen & Meyer, 1990; Mowday et al., 1979; O'Reilly & Chatman, 1986; Wiener, 1982). Two of the most prominent classifications are those of O'Reilly & Chatman (1986) and Allen & Meyer (1990), which have been extensively studied. O'Reilly & Chatman (1986) suggested three dimensions of commitment; a) compliance (adopting attitudes and behaviors to gain rewards), b) identification (affiliation desire), and c)

internalization (congruence between individual and organizational values).

Another popular classification made by Allen & Meyer (1990) includes three dimensions as affective commitment, which pertains to an individual's emotional attachment to the organization; continuance commitment, which concerns the perceived costs associated with leaving the organization; and normative commitment, which is a sense of obligation to remain with the organization. When examining organizational commitment in an educational context, teacher commitment is of utmost importance. Educational researchers have extensively studied teacher commitment by considering various classifications and have found that teachers who demonstrate a high level of commitment may possess stronger psychological ties to their school, their students, or their subject areas than their peers (Li et al., 2022; Firestone & Pennell, 1993). Thus, enhancing teacher commitment is an important way of improving the students' learning and contributing to the overall school success (Lee et al., 2011; Li & Karanxha, 2024; Özdemir et al., 2022). As Firestone & Rosenblum (1988), emphasized committed teachers are likely to do more for students, and willing to work hard to raise school performance.

By considering its importance, literature encompasses research findings pertaining to a multitude of predictors of teacher commitment, including, but not limited to, teacher and school characteristics, school leadership, and working conditions. (Firestone & Pennell 1993). In this study, we constructed our data pool by considering teacher commitment as a single dimension, without taking into account the classifications of organizational commitment. We then investigated the association between school leadership and teacher commitment.

School Leadership

School leadership, which is a multifaceted concept that encompasses financial administration and human resources management (Pont et al., 2008), has emerged as a key priority in global educational policy agendas and an essential research area within the field of education studies over the past 50 years (Waters & Marzano, 2006). Effective school leadership, which is crucial for enhancing the motivations and capacities of teachers, as well as the school climate and environment, is a key factor that can significantly influence school outcomes (Beatriz et al., 2008; Zhang, 2015).

Research consistently highlights the key role of school leadership (Leithwood et al., 2020; Pashiardis & Johansson, 2021) by providing evidence including the positive effects of school leadership on various school outcomes (e.g. student achievement, organizational behaviors of teachers) (Hulpia et al., 2011; Leithwood & Jantzi, 2005; Li et al., 2022; Liu & Watson, 2020). As Bush & Glover (2014) emphasized contemporary leadership models have emerged in the education sector, alongside a re-examination of conventional approaches in recent decades. There is a growing tendency towards the flattening of organizational hierarchies through the implementation of democratic decision-making and distributed leadership models. This is occurring concurrently with a decline in popularity of the traditional top-down approach to school leadership (O'Brien & Murphy, 2016). This trend has brought theory adaptations from the leadership and management literature (Avolio, 1999; Bass & Riggio, 2006; Burns, 1978; Leithwood

& Jantzi, 2006) including three of the foremost models (e.g. transformational, distributed and instructional leadership) in the field of educational leadership. In addition to the aforementioned models, the literature also includes other models, such as the integrated model (a combination of transformational and instructional models) (Hallinger, 2003), as well as authentic (Avolio & Gardner, 2005), servant (Patterson, 2003), and ethical leadership (Mendonca & Kanungo, 2006).

Leadership models are not limited to those mentioned, but they are the commonly examined ones in school leadership literature. In the present study, we constructed our data pool by considering all the leadership models examined in school settings. We then investigated whether leadership models are related to teacher commitment.

Hofstede's model of cultural dimensions

Hofstede's (1980) quantification of cultural differences between countries has enabled researchers investigating the impact of culture on organizations' activities and performance cross culturally (Kirkman et al., 2006). Researchers have extensively used this model to analyze work-related cultural values in different countries, and national or international level organizations. Hofstede originally provided country scores for four work-related dimensions of national culture using data derived from surveys conducted at IBM: Power Distance, Individualism versus Collectivism, Uncertainty Avoidance, and Masculinity versus Femininity. Later, the author added the Long-Term versus Short-Term Orientation and Indulgence versus Restraint dimensions using the data from the World Values Surveys (Hofstede, 2010).

Power distance pertains to the hierarchical relations between superiors and subordinates within an organizational structure. Cultures that exhibit a higher degree of power distance tend to have a more rigid hierarchical structure and a greater degree of authority within their organizations (Hofstede, 2001; 2010). *Individualism versus Collectivism* reflects autonomy, individual achievement and freedom to make decisions (individualism) which a minority of people in the world experience while collectivism refers to being part of a community and prioritizing the interests of the society to which one belongs (e.g. extended family) (Hofstede, 2010). Many cross-cultural studies have focused on either individualism/collectivism or power distance because they have important implications for behavior at work, and in particular for leadership processes (Jackson et al., 2013).

The third dimension *Uncertainty Avoidance* indicates the extent to which individuals prefer structured and predictable circumstances, and not comfortable with adapting to unexpected situations (Beugelsdijk & Welzel, 2018). Countries with high uncertainty avoidance scores attempt to manage uncertainty using technology, regulations, and religion. Conversely, cultures with low scores on this dimension tend to be more accepting of ambiguity, with individuals who are more willing to take risks and embrace new ideas (Masry-Herzallah & Da'as, 2021). *Masculinity versus Femininity* reflects gender roles which men are often expected to be assertive and competitive, while women are expected to be modest and caring towards others (Hofstede, 2010). With cultures high in masculinity, men dominate leadership and managerial positions, and fewer women have lower chances of reaching top positions. *Long Term versus Short Term Orientation* refers to focusing on the future (Long term orientation) which includes traits such as being flexible, patient and adapting to

new changing conditions (Hofstede, 2011). Short-term oriented societies focus on achieving results quickly, respect traditions, and have a relatively low tendency to save or invest in the future (Bissessar, 2018). The final dimension, *Indulgence versus Restraint*, reflects a happiness-oriented lifestyle (indulgence), while restraint refers to a culture in which people limit their desires and impulses (Hofstede, 2011).

The current study is an attempt to examine the influence of national culture on the association between school leadership and teacher commitment. The study aimed to answer the following questions:

a) Is there a positive correlation between school leadership and teacher commitment?

b) Do the study characteristics positively predict the relationship between school leadership and teacher commitment?

c) Do the cultural dimensions of the countries predict the relationship between school leadership and teacher commitment?

Method

Research context

We followed a three-step analysis to examine our questions. First, we systematically reviewed the literature on school leadership and teacher commitment by using an explicit search strategy in which studies were identified, screened and included based on predefined eligibility criteria (Gough et al., 2017). Second, we followed meta-analytical process by combining the data from the included studies to find common results on the association between school leadership and

teacher commitment. Third, as the focus of our study, we conducted meta-regression procedures to determine the main predictors of the association between school leadership and teacher commitment, using Hofstede's (2011) theoretical model of cultural dimensions.

Information Sources and Search Procedure

We conducted a comprehensive search of independent studies, yielding results from a diverse array of data sources examining the interrelations between school leadership and teacher commitment published up to December 2023. PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) principles for reporting were followed (Page et al., 2021), and flow diagram was presented in Figure 1.

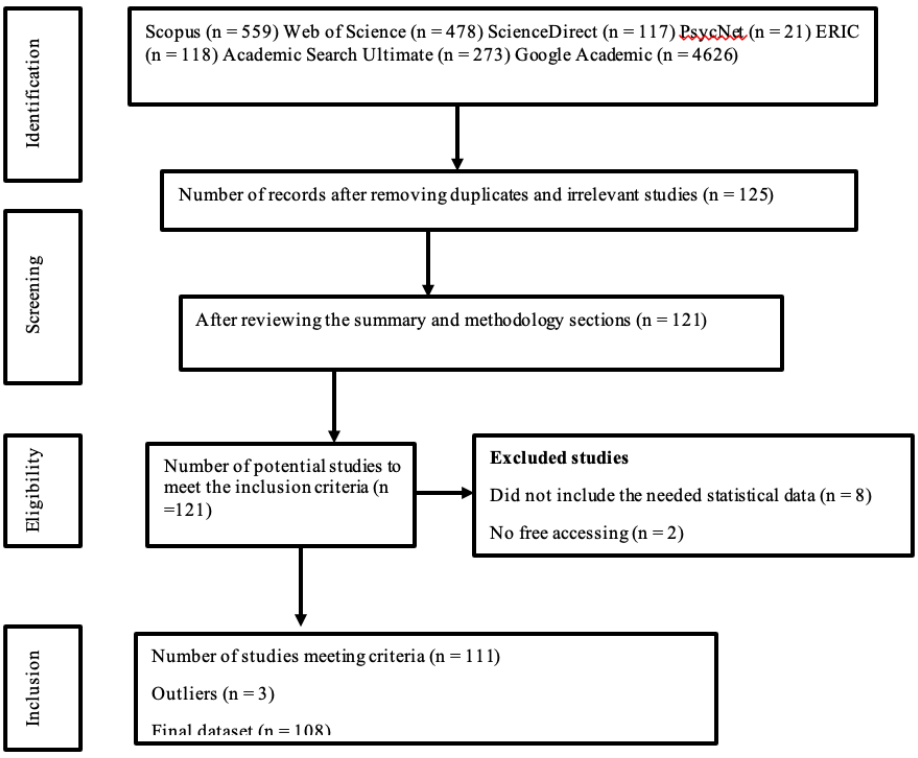

Figure 1. *Flow diagram*

In the identification stage, we conducted our search on the following databases: Scopus, ScienceDirect, Education Resources Information Center (ERIC), Academic Search Ultimate, Web of Science and PsycNet. The search terms used in the abstracts and titles were combinations of relevant keywords, including, ('leadership' OR 'leader' OR 'principal' OR 'headmaster' AND 'teacher commitment' OR 'commitment'). Additionally, we conducted searches using the same keywords in the Google Academic database to access grey literature on the relation between school leadership and teacher

commitment. At this stage, we identified (n = 6594) studies that had the potential to meet our criteria.

In the screening and eligibility phase, duplicate studies that appear in more than one database or irrelevant studies were reduced (n = 125). After reviewing the summary and methodology sections of the studies, we reduced the number to be included (n = 121). Then, we proposed our eligibility criteria to get a refined dataset: Independent studies were eligible if they 1) focused on the relationship between school leadership and teacher commitment, 2) were published between 2000 and 2023, 3) provided plenty of statistical data to calculate the effect sizes, (*e.g.* n, r, R, R^2, F, t), 4) were conducted at kindergarten and K12. We excluded studies conducted in higher education as the context differs from that of K12 schools. Studies that did not include the needed statistical data (n = 8), and not accessible freely (n = 2) were also excluded, and we had a dataset of (n = 111) studies.

In the last stage, we examined the forest plot for outlier analysis by considering confidence intervals of effect sizes (Şen & Yıldırım, 2020). When detecting outliers, we evaluated studies that were at the very high end of their confidence intervals and decided to exclude them because the analysis could be affected by extreme values (Afonso et al., 2024). We identified three studies as outliers (k = 3) and excluded them from the analysis. Finally, our dataset consisted of 108 studies. Table 1 presents the descriptive analysis of the studies included in the dataset.

Table 1.

Descriptive analysis of the data

Categorical variable	f	%	Categorical variable	f	%
Year			**Leadership styles**		
2000-2009	3	2.77	Transformational	44	40.70
2010-2019	29	26.85	Distributed	13	12.00
2020-2023	76	70.38	Instructional	12	11.10
			Leadership		
Sampling method			Behavior	14	13.00
Non-Random	56	51.85	Integrated	3	2.80
Random*	52	48.15	Authentic	3	2.80
Scale			Servant	4	3.70
Mayer and Allen					
(1984)	34	31.48	Ethical	3	2.80
Modway et al. (1974)	14	12.96	Other *	12	11.10
Balay (2000)	4	3.70	**Level of education**		
Celep (2000)	4	3.70	Kindergarten	3	2.78
Cook and Wall (1980)	3	2.78	Elementary	24	22.22
Other *	24	22.22	Secondary	34	31.48
Unknown	25	23.15	High school	18	16.67
			Mixed*	29	26.85

Continuous variable	Mean	Std. Dev.	Min.	Max.	Valid	Missing

Power Distance	65.67	14.76	13.00	94.00	102	6
Individualism	29.80	17.42	5.00	91.00	102	6
Masculinity	47.44	8.79	16.00	66.00	102	6
Uncertainty	64.52	20.59	23.00	94.00	102	6
Long term orientation	58.53	26.09	1.00	100.00	101	7
Indulgence	40.32	13.39	14.00	84.00	94	14
Quality scores	9.72	2.88	4.00	14.00	108	

* Referenced categories in meta regression

The dataset comprises studies conducted in 32 countries. Sample size is n = 202.357. The range of *r* values varies between (-.24 to .81). Detailed study characteristics were presented in Appendix 1.

Coding process. We developed a coding scheme which included information on the identification of the study, year of publication, sampling method, level of education, sample size, effect size, participant group, scale, location, the cultural dimension of the country the research conducted, leadership styles and quality scores of the study. We used '*Quality assessment and validity tool for correlational studies'* scale developed by Cicolini et al., (2013). The cultural dimensions were classified by considering Hofstede's (2011) model of cultural dimensions. We calculated Cohen's Kappa coefficient as κ = .87 which presents a high internal consistency. If a study had multiple sample groups, we coded each group as an independent study.

Statistical Model. As the included studies have different characteristics, we performed statistical analyses under the random-effects model, suggested by Borenstein et al., (2021) and Paul & Barari

(2022). We used maximum likelihood model in meta regression analysis.

Calculating effect sizes. Most of the included studies used *Pearson r* as an effect size index. Pearson correlation coefficients, which range from -1 to +1, can cause variance narrowing (Borenstein & Hedges 2019). Thus, we converted the reported *r* values into Fisher's z (r = Fz) and conducted statistical analysis using (Fz) values. We excluded three studies as outliers from the analysis after the outlier analysis of the dataset.

Results

Publication bias

Total heterogeneity amount of effect sizes was ($Q_{(total)}$ = 5088.70), and a high level of heterogeneity was found (I^2 = 97.9). Figure 2 shows the Funnel Plot chart for publication bias in the data set. The distribution of effect sizes, based on their standard errors, appears to be symmetrical. The analysis of Begg and Mazumdar Rank Correlation regarding the distribution of effect sizes showed no bias (*Kendall's tau* = .003; z = .04; p = .97) (McShane et al., 2016). However, the results of Egger's regression test indicate the presence of publication bias (t = 3.97; df = 106; p = .001). No publication bias was detected through the Duval Tweedie's Trim and Fill (DTTF) test (Duval & Tweedie, 2000), and the combined results indicate a negligible level of publication bias in our dataset. Figure 2 shows the distribution of effect sizes based on standard errors.

Figure 2. *Funnel plot of standard errors*

When interpreting the funnel plot, the distribution of effect sizes according to standard errors is expected to be symmetric. If it is symmetric, it is interpreted as no publication bias, while if it is asymmetric, publication bias can be mentioned (Jin et al., 2015). The sample sizes of the studies may affect this distribution. The expected situation is a balanced distribution of effect sizes from large or small sample size studies (Borenstein et al., 2021). As can be seen in Figure 2, the distribution of effect sizes is generally symmetric. This can be interpreted as there is no publication bias. The effect sizes with large samples produce approximately consistent results, and clustered in approximately the same region at the top of the graph. In addition, the effect sizes are close to the mean effect size. This can be taken as an indicator that the effect sizes are producing reliable results.

School leadership and teacher commitment

Our analysis revealed a positive average effect size (*ES* = .53; *CI* = [.48, .57]; *k* = 108) between school leadership and teacher commitment, with a moderate relationship. Our finding suggests a positive correlation between school leadership and teacher commitment. We conducted a meta-regression analysis comprising four models on our datasets to examine the second and third questions, and presented the results in Table 2.

Table 2.

Meta regression models

	Model 1				**Model 2**			
Moderator		β	SE	p		β	SE	p
Intercept	-7.49		13.17	.56	-10.17		15.26	.50
Year		.01	.01	.54		.01	.01	.48
Kindergarten						.35	.15	.02
Elementary						.11	.70	.13
Secondary						.03	.70	.69
High school						-.01	.08	.86
Nonrandom						-.01	.05	.90
Meyer & Allen (1984)						-.03	.07	.66
Modway et al. (1974)						.05	.11	.54
Balay (2000)						-.08	.13	.52
Celep (2000)						-.05	.13	.69
Cook & Wall (1980)						.29	.15	.06
Unknown						.03	.10	.74
Quality scores						-.01	.01	.84
R^2	**.01**				**.15**			
	Model 3				**Model 4**			
Moderator		β	SE	p		β	SE	p
Intercept	-20.2		14.61	.16	-9.35		15.07	.54
Year		.01	.01	.16		.01	.01	.50
Kindergarten		.38	.15	.01		.28	.16	.07
Elementary		.15	.07	.03		.11	.08	.16
Secondary		.04	.07	.56		.02	.08	.84
High school		.01	.07	.95		.01	.09	.90

Nonrandom	.06	.05	.24	.10	.06	.06
Meyer & Allen (1984)	-.02	.06	.75	.01	.08	.98
Modway et al. (1974)	.06	.09	.44	.06	.09	.50
Balay (2000)	-.01	.13	.9	.03	.14	.82
Celep (2000)	.01	.14	.96	-.05	.14	.70
Cook & Wall (1980)	.16	.15	.28	.25	.17	.13
Unknown	.03	.09	.44	.07	.10	.44
Quality scores	-.01	.01	.91	.01	.01	.68
Transformational	.21	.07	.01	***.25***	***.07***	***<.01***
Distributed	.18	.09	.06	***.27***	***.10***	***<.01***
Instructional	.23	.09	.01	***.26***	***.09***	***.01***
Leadership behavior	.14	.1	.15	.17	.10	.08
Integrated	.45	.15	.01	***.35***	***.17***	***.04***
Servant	-.02	.13	.83	.02	.13	.89
Ethical	.12	.17	.48	.19	.17	.26
Power distance				***-.001***	***.01***	***.04***
Individualism				***-.001***	***.01***	***.01***
Masculinity				.01	.01	.09
Uncertainty avoidance				.01	.01	.21
Long term orientation				-.01	.01	.25
Indulgence				-.01	.01	.06
R^2	**.28**			**.39**		

The analysis in Model 1 included publication year, while Model 2 included moderator variables such as level of education, sampling method, scale and quality scores of the study. Model 3 focused on leadership styles, and Model 4 examined the cultural dimensions of the countries. The variance explained in Model 1 was 1% (R^2 = .01); in Model 2, it was 15% (R^2 = .15), in Model 3 it was 28% (R^2 = .28); whereas in Model 4 it increased to 39% (R^2 = .39). When using Model 4 as a reference, we observed that the effect sizes varied depending on the leadership styles (Q = 18.63; df = 7; p = .01). This result indicated that integrated (β = .35; p = .04), distributed (β = .27; p = <.01), instructional

(β = .26; p = .01) and transformational (β = .25; p = <.01) leadership styles are the significant predictors of the effect sizes. This result suggests that the only certain leadership styles have a positive effect on the relationship between school leadership and teacher commitment.

Considering the variance explained by Model 4, we found that the two of the cultural dimensions, power distance (β = -.001; p = .04) and individualism (β = -.001; p = .01), had a negative effect on the predicted effect sizes. This result suggests that the only two cultural dimensions have a negative effect on the relationship between school leadership and teacher commitment.

Discussion

In this study, we addressed the important role of national culture on the association between school leadership and teacher commitment. Management scholars have extensively researched these two topics over several decades, uncovering significant insights into the association between leadership and commitment. The extensive research is also ongoing in educational settings, given the pivotal role of school leadership and teacher commitment for school outcomes. The adoption of directive, participative and supportive leadership behaviors by school leaders is associated with higher levels of teacher commitment and involvement in the school. Consequently, the behaviors of school leaders exert a significant influence on the commitment levels of teachers (Rusliza & Fawzy, 2016).

The present study initially focused on the relationship between school leadership and teacher commitment. The results indicated a positive, moderate correlation between the two variables. This finding indicates that the two variables exhibit a degree of interdependence. A substantial corpus of literature on leadership and commitment

demonstrates a consistent correlation between the the two variables. Findings from empirical studies consistently indicate a positive effect of school leadership on various school outcomes, including student achievement and teacher commitment (Leithwood & Jantzi, 2005; Li et al., 2022; Liu & Watson, 2020; Selvitopu & Kaya, 2017). For instance, in their study Li et al., (2022) examined the relation between school leadership and achievement through teacher commitment and they confirmed teacher commitment as a full mediator between school leadership and achievement. In a separate study, Hulpia (2011) examined the relationship between school leadership and teachers' organizational commitment. The findings indicated that teachers' organizational commitment was predominantly shaped by the quality of supportive leadership, collaborative leadership practices within the institution, and a participatory approach to decision-making. Our findings are in accordance with a substantial body of research evidence (Bellibaş et al., 2023; Nguni et al., 2006) indicating a correlation between school leadership and teacher commitment.

In the second phase of our analysis, we employed meta-regression techniques to ascertain the extent to which different leadership styles influence the relation between school leadership and commitment. The meta-regression analysis, comprising four models, demonstrated that the effect sizes varied depending on the leadership styles. This suggests that certain leadership styles exert a positive influence on the association between school leadership and teacher commitment. Upon analysis of the data, we found that integrated, distributed, instructional, and transformational leadership styles were the most significant predictors of that relationship, respectively. It is important to note that the number of effect sizes varies considerably, with only three effect sizes for integrated style and 44 effect sizes for

transformational leadership style. The paucity of studies investigating integrated leadership, defined as a combination of transformational and instructional styles (Hallinger, 2003), may be attributed to the preference of researchers to study these styles separately. Conversely, the notion of transformational leadership as an exemplar for educational leadership (Leithwood & Jantzi, 2006) may be a contributing factor to the prevalence of transformational leadership studies.

The literature includes numerous studies that examine the relationship between leadership styles and teacher commitment to test the efficacy of different leadership styles in enhancing school effectiveness (Aydın et al., 2013; Bellibaş et al., 2022; Liu & Werblow, 2019; Zadok & Benoliel, 2023). For instance, Bellibaş et al. (2022) focused on principal leadership typologies and their correlation with teacher self-efficacy and commitment at the level of both the individual teacher and the school institution more broadly. Their findings indicated that the integration of teachers and integrated school profiles were associated with higher levels of teacher self-efficacy and commitment. Furthermore, both levels of integrated leadership profiles were found to be indirectly related to teacher commitment through the medium of teacher self-efficacy, in comparison to other profile groups.

Another style of school leadership is transformational leadership, which has been repeatedly found to be positively associated with teachers' commitment (Leithwood & Sun, 2012). In their study, Aydın et al. (2013) identified a positive correlation between the implementation of a transformational style and the level of commitment demonstrated by teachers. Furthermore, the leadership style of administrators was observed to transition from transactional to transformational, which resulted in an increase in job satisfaction

and commitment levels. In addition, Berkovich & Bogler's (2021) and Liu & Werblow's (2019) studies revealed that transformational and distributed school leadership are positively correlated with teachers' organizational commitment.

The findings of this research indicate that the styles of leadership are significant predictors of the relationship between school leadership and teacher commitment. This finding may be explained by the facilitating roles of different leadership styles in fostering organizational commitment among teachers. This may be achieved by assisting teachers in aligning their personal vision and mission with those of the school (transformational), sharing authority with teachers (distributed), supporting the development of teaching and learning environment (instructional) or integrating them in alignment with the school's goals and objectives (integrated). To summarize our second finding, we determined that distinct leadership styles have various degrees of effects on the relation between leadership and commitment, and it would be beneficial to integrate multiple leadership styles to enhance school effectiveness through teacher commitment.

In the final phase of our analysis, we determined the main cultural predictors of the association between school leadership and teacher commitment by considering Hofstede's (2011) theoretical model of cultural dimensions. We observed that power distance and individualism dimensions exerted a negative influence on the association between school leadership and teacher commitment. The findings showed that as the power distance index, which is an indicator of the hierarchical relations between superiors and subordinates in a given country, increases, the school leadership and teacher commitment association becomes weaker. Cultures with higher scores in this dimension have a strict hierarchy and authority in

their organizations (Hofstede, 2001; 2010). A rigid hierarchy and authoritative structure in educational leadership may have a detrimental impact on the attitudes of teachers towards the school's vision, mission, objectives and learning environment. Our findings indicate that in cultures where the status and authority of school principals are strong, there is a tendency for teachers to display a lack of commitment to the school. Moreover, school principals, as lower-level leaders, may perceive their role as being limited to the day-to-day operational aspects of their position.

In a high-power distance culture, this may result in longer-term issues, such as the sharing of vision and values, being left to higher-level leaders (Avolio et al., 2004), and a lower level of commitment among teachers, which could have unanticipated consequences such as intent to leave, burnout or feelings of insecurity. Qadach et al., (2020) examined the mediating effect of collective teacher efficacy and shared vision on teachers' intent to leave. Their findings indicated that, in schools characterised by a high-power distance, teachers tend to perceive a lower level of shared vision in the school climate, which positively affects their intent to leave. In their study, Masry-Herzallah & Da'as (2021) examined the relationship between cultural values, school innovative climate and organizational affective commitment. The study found that an innovative climate was positively related to teachers' affective commitment. However, no correlations were found between an innovative climate and a low power distance culture. One strategy that educational policy makers may employ to foster a positive school climate and enhance teacher commitment in countries with a high-power distance is to delegate authority or distribute responsibilities among teachers to a certain extent.

The results of our analysis indicate that the individualism versus collectivism dimension exerts a negative influence on the association between school leadership and teacher commitment. Individualism is defined as the pursuit of autonomy, the achievement of individual goals, and the freedom to make decisions. Collectivism, in contrast, is characterized by the prioritization of the collective interests of the group (Hofstede, 2010). Our findings indicate that in cultures characterized by high levels of individualism, the relationship between school leadership and commitment tends to become weaker.

The existing literature includes a number of studies conducted in non-school contexts. These studies have yielded findings that are generally consistent with the findings of the present study with regard to the individualism dimension. Jiang (2015) conducted a study to examine the relationship between individualism and organizational commitment. The study utilized survey data from China, South Korea, and Australia. The findings indicated that individualism was negatively correlated with organizational commitment. In their study, Jackson et al. (2013) found no effect of societal individualism-collectivism on the relationship between transformational/charismatic leadership and affective commitment. Furthermore, the researchers observed that the relationship between transformational/charismatic leadership and commitment is more pronounced in countries where collectivism is highly valued. The results of the aforementioned studies are closely related to our own findings, which demonstrated a negative correlation between individualism and the relationship between leadership and commitment in an educational context. One possible explanation for this phenomenon in educational settings is that the individualistic cultural environment in which teachers operate may lead to feelings of alienation or a failure to align with the goals and

objectives of the school. In cultures where the individualistic culture is more dominant, the ability of teachers to integrate with the school's goals and objectives requires a collaborative approach which can be achieved by enriching the learning environment. School principals can foster collaborative learning environments by encouraging teachers' participation in decision-making and social activities, and by valuing their ideas. Our findings suggest that the other four dimensions of Hofstede (masculinity, uncertainty avoidance, long-term orientation and indulgence) have no influence on the association between school leadership and teacher commitment.

Conclusion

Considering the relationship between school leadership and teacher commitment, it is important to take into account national culture, as cultural context can play a key role in this relationship. The current study was an attempt to examine the influence of national culture on the association between school leadership and teacher commitment. We systematically reviewed the literature on school leadership and teacher commitment, then followed a meta-analytic process by combining the data from the included studies and finally conducted meta-regression procedures to identify the main predictors of the association between the two variables using Hofstede's (2011) theoretical model of cultural dimensions. Our findings suggest that there is a moderate positive relationship between school leadership and teacher commitment that certain leadership styles are important in this relationship, and that power distance and individualism dimensions have negative influences on this association. Therefore, we conclude that policy makers are encouraged to foster a positive school climate and enhance teacher commitment in countries with a high-power distance by delegating authority or distributing responsibilities

among teachers to a certain extent. In cultures where the individualistic culture is more dominant, school principals can foster collaborative learning environments by encouraging teachers' participation in decision-making and social activities, and by valuing their ideas.

Limitations and directions for future research

As with any study, there are some limitations to this review. It is important to note that the studies included in this review were conducted in K-12 education. Future research could examine studies reported in higher education that focus on leadership in academia, the commitment of faculty members and national culture. Secondly, the studies reviewed originated from 32 countries, with the majority of these studies conducted in the Asian region. This may result in a limitation in the generalizability of the results. We recommend that readers exercise caution when attempting to generalize the results. Thirdly, only publications written in English were included in the final analysis. Future reviews focusing on different languages could enhance our understanding of the influence of national culture on the association between school leadership and teacher commitment.

References

Abd Razak, N., Darmawan, I. G. N., & Keeves, J. P. (2010). The influence of culture on teacher commitment. *Social Psychology of Education*, *13*, 185-205.

https://doi.org/10.1007/s11218-009-9109-z

Afonso, J., Ramirez-Campillo, R., Clemente, F. M., Büttner, F. C., & Andrade, R. (2024). The perils of misinterpreting and misusing "publication Bias" in meta-analyses: An education review on funnel plot-based methods. *Sports Medicine*, *54*(2), 257-269. https://doi.org/10.1007/s40279-023-01927-9

Allen, N. J., & Meyer, J. P. (1990). Organizational socialization tactics: A longitudinal analysis of links to newcomers' commitment and role orientation. *Academy of Management Journal*, *33*(4), 847-858. https://doi.org/10.5465/256294

Avolio, B. J. (1999). *Full leadership development: Building the vital forces in organizations*. Sage.

Avolio, B. J., & Gardner, W. L. (2005). Authentic leadership development: Getting to the root of positive forms of leadership. *The Leadership Quarterly*, *16*(3), 315-338. https://doi.org/10.1016/j.leaqua.2005.03.001

Avolio, B. J., Zhu, W., Koh, W., & Bhatia, P. (2004). Transformational leadership and organizational commitment: Mediating role of psychological empowerment and moderating role of structural distance. *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior*, *25*(8), 951-968.

Aydın, A., Sarıer, Y., & Uysal, Ş. (2013). The effect of school principals' leadership styles on teachers' organizational commitment and job satisfaction. *Educational Sciences: Theory & Practice,13*(2), 795-811.

Bass, B. M., & Riggio, R. E. (2006). *Transformational leadership*. Psychology press.

Beatriz, P., Deborah, N., & Hunter, M. (2008). *Improving school leadership, Policy and practice* (Vol. 1). OECD publishing.

Bellibaş, M. Ş., Gümüş, S., & Chen, J. (2023). The impact of distributed leadership on teacher commitment: The mediation role of teacher workload stress and teacher well-being. *British Educational Research Journal*, *50*(2), 814-836. https://doi.org/10.1002/berj.3944

Bellibaş, M. Ş., Polatcan, M., & Akyürek, M. İ. (2022). Principal leadership typologies and their relationship with teacher self-efficacy and commitment: A latent profile mediation analysis. *Educational Management Administration & Leadership*, *0*(0). https://doi.org/10.1177/17411432221139932

Beugelsdijk, S., & Welzel, C. (2018). Dimensions and dynamics of national culture: Synthesizing Hofstede with Inglehart. *Journal of Cross-Cultural Psychology*, *49*(10), 1469-1505. https://doi.org/10.1177/0022022118798505

Berkovich, I., & Bogler, R. (2021). Conceptualising the mediating paths linking effective school leadership to teachers' organisational commitment. *Educational Management Administration & Leadership*, *49*(3), 410-429. https://doi.org/10.1177/1741143220907321

Biamba, C., & Odero, J. (2016). A policy review of school leadership in Sub-Saharan Africa. In *Symposium on Education Policies "Leading better learning: School leadership and quality in the Education 2030 Agenda"–Regional reviews of policies and practices on school leadership*, UNESCO, Paris.

Bissessar, C. (2018). An application of Hofstede's cultural dimension among female educational leaders. *Education sciences*, *8*(2), 77. https://doi.org/10.3390/educsci8020077

Blair, M. (2002). Effective school leadership: The multi-ethnic context. *British journal of sociology of education*, *23*(2), 179-191. https://doi.org/10.1080/01425690220137701

Borenstein, M. & Hedges, L. V. (2019). Effect sizes for meta-analysis in Cooper, H., Hedges, L. V., & Valentine, J. C. (Ed). *The handbook of research synthesis and meta-analysis*, (pp.207-242). Russell Sage Foundation.

Borenstein, M., Hedges, L. V., Higgins, J. P., & Rothstein, H. R. (2021). *Introduction to meta-analysis*. John Wiley & Sons.

Burns, J. (1978). *Leadership.* New York: Harper & Row Publishers Inc.

Bush, T., & Glover, D. (2014). School leadership models: What do we know?. *School Leadership & Management*, *34*(5), 553-571. https://doi.org/10.1080/13632434.2014.928680

Cicolini, G., Comparcini, D., & Simonetti, V. (2013). Workplace empowerment and nurses' job satisfaction: a systematic literature review. *Journal of nursing management, 22(7),* 855-871. https://doi.org/10.1111/jonm.12028

Chen, L. T., Chen, C. W., & Chen, C. Y. (2010). Are educational background and gender moderator variables for leadership, satisfaction and organizational commitment? *African Journal of Business Management*, *4*(2), 248.

Duval, S., & Tweedie, R. (2000). Trim and fill: a simple funnel-plot–based method of testing and adjusting for publication bias in meta-analysis. *Biometrics*, *56*(2), 455-463. https://doi.org/10.1111/j.0006-341X.2000.00455.x

Firestone, W. A., & Rosenblum, S. (1988). Building commitment in urban high schools. *Educational evaluation and policy analysis*, *10*(4), 285-299. https://doi.org/10.3102/01623737010004285

Firestone, W. A., & Pennell, J. R. (1993). Teacher commitment, working conditions, and differential incentive policies. *Review of educational research*, *63*(4), 489-525. https://doi.org/10.3102/00346543063004489

Gough, D., Stewart, R., & Tripney, J. (2017). Using research findings. *An introduction to systematic reviews, 2nd ed., London: Sage Publications Ltd*, 279-296.

Hallinger, P. (2003). Leading educational change: Reflections on the practice of instructional and transformational leadership. *Cambridge Journal of Education*, *33*(3), 329-352. https://doi.org/10.1080/0305764032000122005

Hofstede, G. (2011). Dimensionalizing Cultures: The Hofstede Model in Context. *Online Readings in Psychology and Culture, 2*(1). https://doi.org/10.9707/2307-0919.1014

Hofstede, G. (2010). The GLOBE debate: Back to relevance. *Journal of International Business Studies*, *41*, 1339-1346.

Hofstede, G. (2001). *Culture's consequences: Comparing values, behaviors, institutions and organizations across nations*. Sage Publications.

Hofstede, G. (1980). Culture and organizations. *International Studies of Management & Organization*, *10*(4), 15-41. https://doi.org/10.1080/00208825.1980.11656300

Hulpia, H., Devos, G., & Van Keer, H. (2011). The relation between school leadership from a distributed perspective and teachers' organizational commitment: Examining the source of the leadership function. *Educational Administration Quarterly*, *47*(5), 728-771. https://doi.org/10.1177/0013161X11402065

Jackson, T. A., Meyer, J. P., & Wang, X. H. (2013). Leadership, commitment, and culture: A meta-analysis. *Journal of Leadership & Organizational Studies*, *20*(1), 84-106. https://doi.org/10.1177/1548051812466919

Jiang, Z. (2015). Cultural values, organizational trust, and organizational commitment. In *Academy of Management Proceedings*, (1), 16089. Briarcliff Manor, NY 10510: Academy of Management.

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

Kirkman, B. L., Lowe, K. B., & Gibson, C. B. (2006). A quarter century of culture's consequences: A review of empirical research incorporating Hofstede's cultural values framework. *Journal of International Business Studies*, *37*, 285-320. https://doi.org/10.1057/palgrave.jibs.8400202

Lee, J. C. K., Zhang, Z., & Yin, H. (2011). A multilevel analysis of the impact of a professional learning community, faculty trust in colleagues and collective efficacy on teacher commitment to students. *Teaching and Teacher Education*, *27*(5), 820-830. https://doi.org/10.1016/j.tate.2011.01.006

Leithwood, K., & Jantzi, D. (2006). Transformational school leadership for large-scale reform: Effects on students, teachers, and their classroom practices. *School Effectiveness and School Improvement*, *17*(2), 201-227. https://doi.org/10.1080/09243450600565829

Leithwood, K., & Jantzi, D. (2005). A review of transformational school leadership research 1996–2005. *Leadership and Policy in Schools*, *4*(3), 177-199. https://doi.org/10.1080/15700760500244769

Leithwood, K., Sun, J., & Schumacker, R. (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

Leithwood, K., & Sun, J. (2012). The nature and effects of transformational school leadership: A meta-analytic review of unpublished research. *Educational Administration Quarterly*, *48*(3), 387-423. https://doi.org/10.1177/0013161X11436268

Li, Y., & Karanxha, Z. (2024). Literature review of transformational school leadership: models and effects on student achievement (2006–2019). *Educational Management Administration & Leadership*, *52*(1), 52-74. https://doi.org/10.1177/17411432221077157

Li, L., Zhu, H., & Li, H. (2022). School leadership enhances secondary students' achievement in rural China through teacher commitment and collaborative culture. *Frontiers in Psychology*, *13*, 894688. https://doi.org/10.3389/fpsyg.2022.894688

Liu, Y., & Watson, S. (2023). Whose leadership role is more substantial for teacher professional collaboration, job satisfaction and organizational commitment: a lens of distributed leadership. *International Journal of Leadership in Education*, *26*(6), 1082-1110. https://doi.org/10.1080/13603124.2020.1820580

Liu, Y., & Werblow, J. (2019). The operation of distributed leadership and the relationship with organizational commitment and job satisfaction of principals and teachers: A multi-level model and meta-analysis using the 2013 TALIS data. *International Journal of Educational Research*, *96*, 41-55. https://doi.org/10.1016/j.ijer.2019.05.005

Masry-Herzallah, A., & Da'as, R. A. (2021). Cultural values, school innovative climate and organizational affective commitment: a study of Israeli teachers. *International Journal of Educational Management*, *35*(2), 496-512. https://doi.org/10.1108/IJEM-06-2020-0302

McShane, B. B., Böckenholt, U., & Hansen, K. T. (2016). Adjusting for publication bias in meta-analysis: An evaluation of selection methods and some cautionary notes. *Perspectives on Psychological Science*, *11*(5), 730-749. https://doi.org/10.1177/1745691616662243

Mendonca, M., & Kanungo, R. (2006). *Ethical leadership*. McGraw-Hill Education (UK).

Meyer, J. P., & Allen, N. J. (1997). *Commitment in the workplace: Theory, research, and application*. Sage Publications.

Miller, P. (2018). 'Culture' 'context', school leadership and entrepreneurialism: Evidence from sixteen countries. *Education Sciences*, *8*(2),76. https://doi.org/10.3390/educsci8020076

Mowday, R. T., Steers, R. M., & Porter, L. W. (1979). The measurement of organizational commitment. *Journal of Vocational Behavior*, *14*(2), 224-247. https://doi.org/10.1016/0001-8791(79)90072-1

Nguni, S., Sleegers, P., & Denessen, E. (2006). Transformational and transactional leadership effects on teachers' job satisfaction, organizational commitment, and organizational citizenship behavior in primary schools: The Tanzanian case. *School Effectiveness And School Improvement*, *17*(2), 145-177. https://doi.org/10.1080/09243450600565746

OECD (2013), *Leadership for 21st century learning,* Educational Research and Innovation. OECD Publishing.

O'Brien, J., & D. Murphy. 2016. "Leadership, School Leadership and Headship." In *School Leadership*, edited by J. O'Brien, 1–29. Edinburgh: Dunedin Academic Press.

O'Reilly, C. A., & Chatman, J. (1986). Organizational commitment and psychological attachment: The effects of compliance, identification, and internalization on prosocial

behavior. *Journal of Applied Psychology*, *71*(3), 492. https://doi.org/10.1037/0021-9010.71.3.492

Özdemir, N., Gümüş, S., Kılınç, A. Ç., & Bellibaş, M. Ş. (2024). A systematic review of research on the relationship between school leadership and student achievement: An updated framework and future direction. *Educational Management Administration & Leadership*, *52*(5), 1020-1046. https://doi.org/10.1177/17411432221118662

Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., & Moher, D. (2021). The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *International Journal of Surgery*, *88*, 105906. https://doi.org/10.1016/j.ijsu.2021.105906

Pashiardis, P., & Johansson, O. (2021). Successful and effective schools: Bridging the gap. *Educational Management Administration & Leadership*, *49*(5), 690-707. https://doi.org/10.1177/1741143220932585

Patterson, K. A. (2003). *Servant leadership: A theoretical model*. Regent University.

Paul, J., & Barari, M. (2022). Meta-analysis and traditional systematic literature reviews—What, why, when, where, and how?. *Psychology & Marketing*, *39*(6), 1-17. https://doi.org/10.1002/mar.21657

Pont, B., Moorman, H., & Nusche, D. (2008). *Improving school leadership* (1), 578. Paris: OECD.

Qadach, M., Schechter, C., & Da'as, R. A. (2020). Instructional leadership and teachers' intent to leave: The mediating role of collective teacher efficacy and shared vision. *Educational Management Administration & Leadership*, *48*(4), 617-634. https://doi.org/10.1177/1741143219836683

Rusliza, Y., & Fawzy, E. (2016). Leadership styles and organizational commitment: literature review. *Journal of Management Development*, *35*(2), 190-216. https://doi.org/10.1108/JMD-01-2015-0004

Selvitopu, A., & Kaya, M. (2017). Leadership and organizational commitment in educational institutions context: A meta-analytic review. *Dicle Üniversitesi Ziya Gökalp Eğitim Fakültesi Dergisi*, (31), 719-728. https://doi.org/10.14582/DUZGEF.1822

Şen, S. & Yıldırım, İ. (2020). *Meta-analysis applications with CMA.* Anı Publishing.

Waters, T. J., & Marzano, R. J. (2006). School district leadership that works: The effect of superintendent leadership on student achievement. A working paper. *Mid-Continent Research for Education and Learning (McREL)*.

Wiener, Y. (1982). Commitment in organizations: A normative view. *Academy of Management Review*, *7*(3), 418-428. https://doi.org/10.5465/amr.1982.4285349

Wu, M. (2006). Hofstede's cultural dimensions 30 years later: A study of Taiwan and the United States. *Intercultural Communication Studies*, *15*(1), 33.

Zadok, A., & Benoliel, P. (2023). Middle-leaders' transformational leadership: big five traits and teacher commitment. *International Journal of Educational Management*, *37*(4), 810-829. https://doi.org/10.1108/IJEM-12-2022-0541

Zhang, Y. (2015). Sustaining Lesson Study in schools with positive peer leadership: A case study in Hong Kong. *International Journal for Lesson and Learning Studies*, *4*(2), 140-154. https://doi.org/10.1108/IJLLS-07-2014-0018

About the authors:

Abdullah Selvitopu is an Associate Professor in the department of Educational Administration at Karamanoglu Mehmetbey University, Turkiye. He has published several articles on higher education management, organizational behavior, and the internationalization of higher education. His research interests include sociology of education, social theory and education, organizational behavior, higher education management, and international faculty and students. He is currently a postdoctoral fellow in the Universidad Autonoma de Madrid, Spain.

E-mail: a_selvi20@hotmail.com

Authorship credit details: Conceptualization, investigation, writing review & editing.

Metin Kaya is an Associate Professor in the department of Educational Administration at Istanbul Medipol University, Turkiye. He has published several articles on organizational behavior, culture and achievement. His research interests include methodology, organizational behavior, leadership and learning.

E-mail: metinkaya439@gmail.com

Authorship credit details: Data curation, formal analysis, investigation, methodology, validation, visualization.

Ahmet Taylan Aydın holds a PhD in Educational Administration and Supervision from Ankara University, Turkey. He has published several articles on organizational behavior. His research interests include data mining in education, organizational behavior and leadership.

E-mail: taylanaydin81@gmail.com

Authorship credit details: Data curation, formal analysis, investigation, methodology, validation, visualization.