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CORRESPONDENCE
Mehmet Koçyiğit

✉ *mkocyigit@aku.edu.tr*

✉ *Afyon Kocatepe University, Faculty of Education, Department of Educational Sciences, 03200 Afyonkarahisar, Türkiye.*

AUTHOR DETAILS
Additional information about the author is available at the end of the article.

REVIEW ARTICLE

The Relationship Between Transformational Leadership and Teacher Self-efficacy in Terms of National Culture

Metin Kaya[iD] **Mehmet Koçyiğit**[iD]

Background/purpose – The purpose of this study is to examine the relationship between transformational leadership and teacher self-efficacy in terms of cultural values.

Materials/methods – Articles indexed in Web of Science, Scopus, and ERIC databases between 2008 and 2021 were used for conducting a meta-analysis. The data set included 25 articles from 15 countries. The random-effects model was used as a statistical model in the meta-analysis.

Results – The study revealed a weak relationship between transformational leadership and teacher self-efficacy (ES=0.28). Additionally, some dimensions of national cultures are moderators in the relationship between transformational leadership and teacher self-efficacy. This relationship is predicted positively by the power distance orientation of cultures and negatively by individualism and indulgence orientation.

Conclusion – There is a weak relationship between transformational leadership and teacher self-efficacy.

Keywords – Transformational leadership, teacher self-efficacy, national culture, meta-analysis.

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1. INTRODUCTION

Empirical studies on the relationship between transformational leadership and teacher behaviors have increasingly gained prominence. Transformational leaders aim at realizing the vision and mission of their schools and to do so, they intend to transform teachers' values, ideals, beliefs, and capabilities (Pieterse et al., 2010). The improvements in teachers' behaviors are echoed in student achievement (Brophy, 1988, 1986; Panayiotou et al., 2014). In addition, the literature suggests that another significant factor affecting student achievement is teachers' self-efficacy beliefs (Tai et al., 2012). Therefore, it is essential to examine the relationship between school leaders' transformational leadership behaviors and teachers' self-efficacy.

This study aimed to examine the relationship between transformational leadership and teacher self-efficacy in terms of national cultures. Accordingly, the research questions are as follows.

R1. Is there a relationship between transformational leadership and teacher self-efficacy?

R2. Does the relationship between transformational leadership and teacher self-efficacy differ in terms of moderator variables (leadership scale type, self-efficacy scale type, school level, and publication year)?

R3. Do the factors of national culture predict the relationship between transformational leadership and teacher self-efficacy?

2. LITERATURE REVIEW

Leadership research has revealed that transformational leadership is linked to culture (Dickson et al., 2003; Leong & Fischer 2011). Besides, Dilekli and Tezci (2020) and Yada et al. (2019) demonstrate the relationship between teachers' self-efficacy levels and culture. There is inconsistency among studies examining the relationship between transformational leadership and teacher self-efficacy. For example, Mehdinezhad and Mansouri (2016) reported a medium-level relationship between transformational leadership and teacher self-efficacy in their study conducted in Iran (r=0,57). However, Valckx et al. (2020) and Groote et al. (2015) found that this relationship was insignificant in Belgium (r=0,06) and Netherlands (r=0,08) samples, respectively. Gumah et al. (2021), on the other hand, reported a weak relationship in a Chinese sample (r=0,22). The level of the relationship between transformational leadership and teacher self-efficacy varied in the studies conducted in different countries (Mehdinezhad & Mansouri, 2016; Valckx et al., 2020). These results indicate the need for elucidating the relationship between transformational leadership and teacher self-efficacy. Whether this relationship is linked to cultures needs to be unearthed which makes this study significant because it identifies the relationship between transformational leadership and teacher self-efficacy based on basic studies. Additionally, it reveals how the relationship between transformational leadership and teacher self-efficacy differs in terms of countries' cultural values.

Conceptual Framework

Transformational leadership

There are various definitions of leadership in the literature. Northouse (2010, p.3) defined leadership as "a process whereby an individual influences a group of individuals to achieve a common goal." Transformational leadership, one of the leadership types studied under various kinds of leadership from various aspects, is defined as a process focusing on enhancing workers' capacities in accordance with the organization's goals (Leithwood &

Jantzi, 2006, Luo et al. 2020). Avolio et al. (1999) highlighted that transformational leadership embodied components of individualized support, intellectual stimulation, inspirational motivation, and idealized influence. Bass et al. (2003) clarified these components as follows. *Individualized support* includes the leader's behaviors that encourage workers and help their development by offering them opportunities. *Intellectual stimulation* involves the leader's behaviors that enable workers to demonstrate their creativity and increase their awareness levels. *Inspirational motivation* consists of the leader's behaviors that motivate workers by using symbols and images. *Idealized influence* embodies the leader's behaviors that guide workers in line with the organization's vision and mission.

Leithwood and Jantzi (2006) developed a transformational leadership model. This model comprises three categories: setting directions, developing people, and redesigning the organization. The first two categories contain the four components suggested by Avolio et al. (1999), as mentioned above. Redesigning the organization includes the leader's behaviors that aim to redesign school culture and structure to reinforce the relationships among workers (Luo et al., 2020). Within the context of school, transformational leadership is about school leaders' enhancing teachers' capacities to realize the vision and mission of their schools. Transformational leaders enhance teachers' self-confidence through revealing their skills and abilities (Buluç, 2009).

Teacher self-efficacy

Self-efficacy is a concept based on the social-cognitive theory. Self-efficacy is an individual's belief in oneself and his/her abilities to manage and realize prospective potential situations (Bandura, 1997). Teacher self-efficacy is a teacher's belief in one's abilities to unearth desired student behaviors (Tschannen-Moran & Hoy 2001). Bandura (1997) examined self-efficacy in four dimensions: mystery experiences, vicarious experiences, social persuasion, and physiological reflection. Tschannen-Moran and Hoy (2001) argued that teacher self-efficacy consists of the factors of instructional strategies, classroom management, and student engagement. Polatcan, Arslan, and Balci (2021) clarified these factors as follows. *Instructional strategies* are about a teacher's belief in oneself regarding selecting and implementing appropriate and effective instructional strategies, methods and techniques. *Classroom management* includes a teacher's belief regarding organizing classroom setting and student behaviors in harmony in line with the instructional objectives. *Student engagement* is a teacher's belief in oneself regarding enhancing students' participation, attitudes towards lessons, and motivation.

Transformational leadership and teacher self-efficacy

Transformational leaders are mediators of change in schools. They transform teachers' behaviors in an attempt to ensure the change in schools. Effective teacher behaviors enhance the quality of instruction in schools. Transformational leaders support teachers' self-beliefs. The literature has showed the relationship between transformational leadership behaviors and teacher self-efficacy (Gumah, Wenbin & Aziabah, 2021; Mehdinezhad & Mansouri, 2016). The level of this relationship varies in different studies. On the other hand, some studies reported an insignificant relationship between transformational leadership and teacher self-efficacy (Groote et al., 2015; Valckx, Vanderlinde, & Devos, 2020).

National culture as a moderator variable

Culture has a comprehensive meaning, and it is hard to define it. According to Bates (1987), the concept of culture gives meaning to life and provides the framework in which social identity and the individual's understanding of oneself and the world are constructed.

This framework is related to beliefs, languages, rituals, knowledge, traditions, and works. Culture is partially empirical, explanatory, and objective, while it is also partially mythical and related to meaning instead of facts. National culture is also a complicated concept, and it is defined in various ways. Hofstede et al. (2010, p. 6) define national culture as "the collective programming of the mind that distinguishes the members of one group or category of people from others." According to Zhao et al. (2021), national culture is a conscious system developed by humankind through adapting to social developments. According to Globe Project (2004) and House et al. (2013), national culture comprises the dimensions of performance orientation, assertiveness, future orientation, humane orientation, institutional collectivism, in-group collectivism, gender egalitarianism, power distance, and uncertainty avoidance. Similarly, Hofstede et al. (2010) examined national culture with the factors of Power Distance (PD), Individualism (ID), Masculinity (MAS), Uncertainty Avoidance (UA), Long-Term Orientation (LTO), and Indulgence Versus Restraint (IVR).

PD: PD is the size of the distinction between individuals with different power and statuses (Hofstede et al., 2010). In cultures with high power distance, power, authority, and knowledge are not evenly distributed among individuals (House et al., 2013). In cultures with higher PD levels, hierarchy is more powerful in the relationship between authority/ leader and subordinate. If the level of PD is low, then the hierarchy between authority/leader and subordinate is weaker and less powerful (Steers et al., 2010). In their meta-analysis study, Jackson et al. (2013) observed that PD moderates the relationship between transformational leadership and commitment. In parallel, Zhao et al. (2021) revealed the moderator role of PD in the relationship between transformational leadership and project success. Furthermore, the meta-analysis study by Leong and Fischer (2011) found that PD is a significant moderator in the relationship between transformational leadership and its outcomes.

ID: ID is related to an individual's making one's own decisions (House et al., 2013). In cultures with high ID, the individual's environment is structured loosely/flexibly. On the other hand, in cultures with high collectivism, the individual's environment is strictly structured (Hofstede et al., 2010). In high ID cultures, individual interests are more important than social interests (Steers et al., 2010). Gui et al. (2020) observed the moderator role of ID in the relationship between transformational leadership and extra activities in hospital management. Crede et al. (2019) also found that ID was a moderator in the relationship between transformational leadership and organizational citizenship behaviors.

MAS: MAS is related to individuals' sources of motivation. These sources include success, winning, and competing (Hofstede et al., 2010). In cultures with a high level of MAS, wealth, money, and personal goals, boldness, aspiration for promotion, and the feeling of competition are more valuable (Steers et al., 2010). In their meta-analysis study, Leong and Fischer (2011) reported that MAS is not a significant moderator in the relationship between transformational leadership and organizational outcomes.

UA: UA has to do with individuals' reactions and behaviors for uncertain situations. UA involves individuals' threat perception in cases of uncertainty (Hofstede et al., 2010). Higher levels of UA are related to higher levels of anxiety and stress, while lower levels of UA are related to more harmonious behaviors. Cultures with high levels of UA are less tolerant in cases of uncertainty (Steers et al., 2010). The meta-analysis study by Li et al. (2021) revealed the moderator role of UA in the relationship between transformational leadership and employee engagement. Crede et al. (2019) also concluded that UA moderates the relationship between transformational leadership and organizational citizenship behaviors.

LTO: LTO comprises cultures' behaviors of investing in the short or long terms, sustaining relationships, and husbandry (Hosftede et al., 2010). LTO is a measure of investments towards work, life, and relationships. The cultures with high levels of LTO are more future-oriented, while cultures with low levels of LTO are more past and present-oriented (Steers et al., 2010). Crede et al. (2019) reported the moderator role of future orientation in the relationship between transformational leadership and organizational citizenship.

IVR: IVR is related to individuals' control systems over their lives. IVR is individuals' ways of realizing their basic human desires, such as enjoying life and achieving satisfaction. Cultures with a high level of IVR are more tolerant. In cultures with high tolerance, people achieve satisfaction with life in a relatively more unrestrained way. In restricting cultures with low tolerance, some social rules and structures limit individuals' life satisfaction (Hofstede et al., 2010). Crede et al. (2019) found the moderator role of humane orientation in the relationship between transformational leadership and organizational citizenship behaviors.

Scales as moderators

Multifactor Leadership Questionnaire (MLQ) by Bass and Avolio and its versions are frequently used to measure transformational leadership behaviors (Leong & Fischer, 2011). There are also various other scales (Luo et al., 2020). On the other hand, the scale developed by Tschannen-Moran and Hoy (2011) is often used to measure teacher self-efficacy (Windlinger et al., 2020). In addition to that, other scales are used in the literature (Hoxha & Hyseni-Duraku, 2017). The role of the scale types should also be considered when examining the relationship between transformational leadership and teacher self-efficacy.

School level as a moderator

Runhaar et al. (2010) reported an insignificant relationship between transformational leadership and teacher self-efficacy at the high school level. However, Demir (2008) reported a medium-level relationship at the elementary school level. The differences in the relationship between transformational leadership and teacher self-efficacy in terms of school levels are noteworthy. The role of the school level should be considered in this relationship.

3. METHODOLOGY

This study employed the meta-analysis method. Meta-analysis is a method that synthesizes the findings of quantitative research studies. Researchers also prefer this method to evaluate the results of similar studies regarding a subject or a problem (Card, 2015). The meta-analysis method enables evaluating studies from different countries concomitantly. This study employed the meta-analysis method to examine the relationship between transformational leadership and teacher self-efficacy in terms of cultural values.

Data collection

The current study data (independent studies) were accessed through electronic databases, including articles indexed in Web of Science, Scopus, and ERIC. Additionally, other articles not indexed in these databases were also accessed through Google Scholar. The option to search within the article titles was selected. The search used the keywords of leadership or leader or transformational and teacher self/-efficacy or teacher efficacy or teachers' sense of self/-efficacy or self/-efficacy. Before starting the search, the inclusion criteria were determined as follows.

Inclusion criteria

1. The studies should focus on transformational leadership and teacher self-efficacy. The studies on teacher collective efficacy were excluded. Additionally, the researchers excluded studies on instructional leadership, distributed leadership, and other leadership types.

2. The studies should be published in English between 2008 and 2021. The studies which had title and abstract in English but full text in other languages were excluded.

3. The studies should include appropriate and adequate statistical indices to calculate an effect size. The studies lacking these indices were excluded.

4. The transformational leadership in the studies should focus on school leaders' leadership behaviors. Studies focusing on teacher leadership and teacher self-efficacy were excluded.

5. The samples in the studies should include teachers and school leaders. The studies held with pre-service teachers were excluded. In addition, studies with a school-level unit of analysis were excluded.

6. The studies should be focused on teachers working at the primary or secondary education level. Studies conducted at the tertiary level were excluded.

7. The studies should have a survey design. Intervention studies were excluded.

8. The studies should get at least eight points from the quality scale used in the current study. Studies with lesser scores were excluded.

Quality evaluation: 'Quality assessment and validity tool for correlational studies' developed by Cicolini et al. (2014) was used in this study. The scale consists of 14 items. High-quality interval comprises 10-14 points, medium quality interval comprises 5-9 points, and low-quality interval comprises 0-4 points. The quality check was carried out by the researchers independently. The data flow diagram is presented in Figure 1.
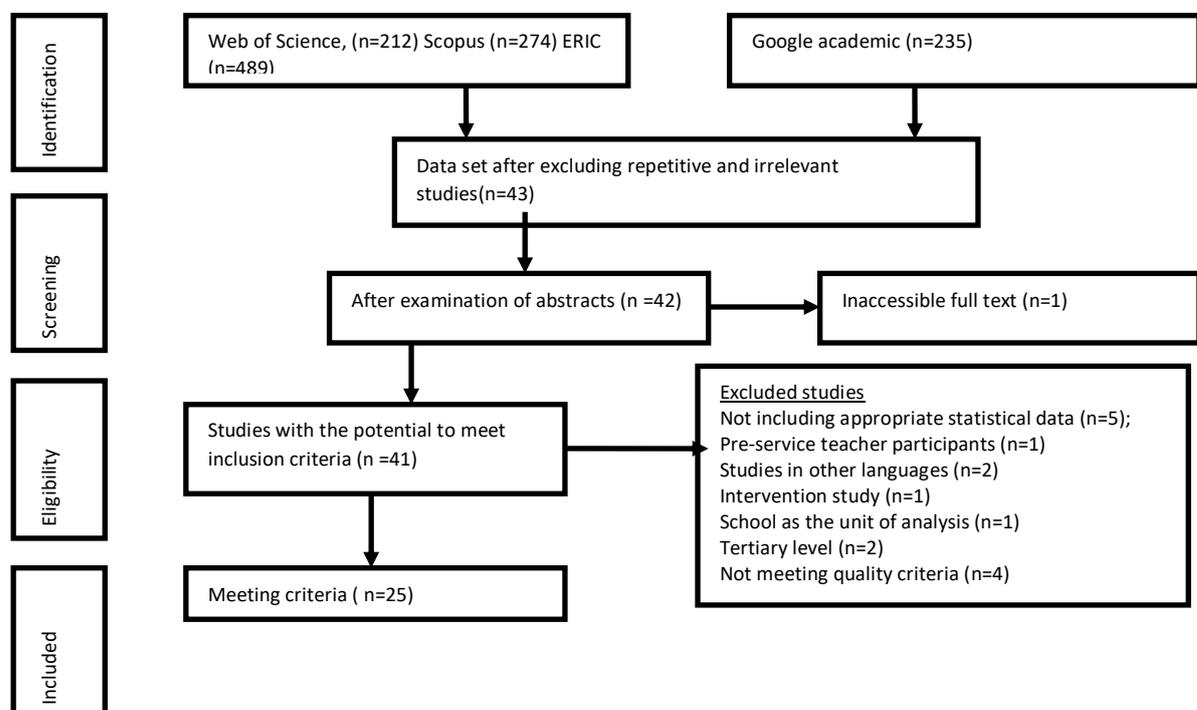

Figure 1. Data Flow Diagram

Coding

The researchers developed a coding form to code the studies in the data set. The coding form included the headings of the identification tag of the study, leadership scale type, self-efficacy scale type, school level of the study, publication type, and publication year. The researchers coded the data based on the explanations below.

Publication year: The year in which the study was published was referenced.

Self-efficacy scale type: The self-efficacy scales were coded based on the frequency of use. For instance, the researchers frequently used the versions of the scale developed by Tschannen-Moran and Hoy. These studies were coded as *the versions of Tschannen-Moran and Hoy (2011).* The researchers also used various scales for measuring the level of self-efficacy. For example, the scale by Bandura and its versions (e.g., Gibson & Dembo, 1984, Schwarzer et al., 1999) were used commonly. If not frequently used scales were used in the studies, they were coded as *others.*

Leadership scale type: Leadership scales were coded similarly to the self-efficacy scales, based on the frequency of use. Seldom used scales were coded as others. Multifactor Leadership Questionnaire (MLQ) by Bass and Avolio is a frequently used leadership scale, and this scale and its versions were coded as MLQ versions.

School level: The school levels were coded based on the International Standard Classification of Education (UNESCO, 2011).

The cultural dimension of countries: The countries were coded based on the dimensions of culture referencing the index scores of Hofstede et al. (2010). This index involves a limited number of countries. Each country was coded according to six different cultural dimensions. Each dimension of culture was determined with an index. These dimensions included The Power Distance Index (PDI), Individualism (IDV), Masculinity (MAS), Uncertainty Avoidance Index (UAI), Long-Term Orientation (LTO), and Indulgence Versus Restraint (IVR). A sample coding is presented in Table 1. The study conducted in Kosovo by Hoxha & Hyseni-Duraku (2017) was not coded because there were no data regarding the related country.

Table 1. Countries in terms of cultural dimension index

Country	PDI	IDV	MAS	UAI	LOI	IVR
Netherlands	38	80	14	53	44	68
Chinese	80	20	66	30	87	24
Iran	58	41	43	59	14	40

Data analysis

The unit of analysis in the current study is the research study level. Each independent study produced an effect size. Each study reported the Pearson correlation coefficient (r) in the relationship between transformational leadership and teacher self-efficacy. Additionally, variance is substantially dependent on correlation value. The Pearson correlation value ranges between 1 and -1. This range narrows the variance (Borenstein et al., 2011). Therefore, in the process of calculating the effect sizes produced by the studies, the r values were transformed to Fisher's z (Fz) values (r=Fz=ES). Two models are used to calculate the mean effect size: the fixed-effect model and the random-effects model. Random effects model is recommended when the contexts and characteristics of the studies differ (Field & Gillett, 2010). Meta-analytic analyses in each data set were conducted with the random-effects model. The value intervals offered by Funder and Ozer (2019) were used while interpreting the effect sizes.

The validity and reliability of the mean effect size are closely related to whether the data set involves publication bias or not. There are various statistical tests to check the publication bias of the distribution of effect sizes (Bakioğlu & Göktaş, 2018). These tests have advantages and limitations (Borenstein et al., 2011). Funnel plot, Egger's test, and Duval and Tweedie's trim and fill (DTTF) technique were used to analyze the publication bias of the data sets in this study.

Heterogeneity in meta-analysis studies stems from sampling error and differences among studies. Q statistical technique was used to check the heterogeneity of the data sets. Additionally, I^2 values were calculated. The researchers used the intervals offered by Higgins et al. (2003) for interpreting the I^2 values.

Leadership scale type, self-efficacy scale type, publication year, publication type, and school level were assigned as categorical moderators. In addition, cultural dimensions of countries (cultural values) were assigned as continuous moderators. Q between (Qb) values were calculated to identify whether mean effect sizes differed in terms of categorical moderators. Meta-regression technique was used to test whether continuous moderators predicted mean effect size or not. Effect size calculations, publication bias analysis, and other statistical procedures were performed with CMA 2.0.

4. RESULTS

Descriptive statistics and mean effect size

This study comprised 25 independent studies (see Appendix). These studies were conducted in 15 countries. These countries are Netherlands (n=5) Turkey (n=3), China (n=3), Malaysia (n=2), Belgium (n=2), India (n=1), Croatia (n= 1) Switzerland (n=1), Ghana (n=1), Singapore (n=1), Serbia (n=1), Philippines (n=1), Iran (n=1), Korea (n=1) and Kosovo (n=1). The smallest sample was n=120, and the largest sample was n=1702. The mean of the sample constituting the data set was X= 499,80 SS= 410,578. The total of participants in the studies was 12495. A total of 25 independent effect sizes were produced in this study. The smallest value of the effect sizes was ES=0,06, and the largest was ES=0,648. The mean value of the effect sizes was ES=0,281 (LL= 0,222 UP=0,341). In other words, the relationship between transformational leadership and teacher self-efficacy was weak. The total heterogeneity amount of the data set was calculated as Q (top)= 256,234. Additionally, the heterogeneity level of the data set was I^2=90,634. In other words, the data set of this study was highly heterogeneous.
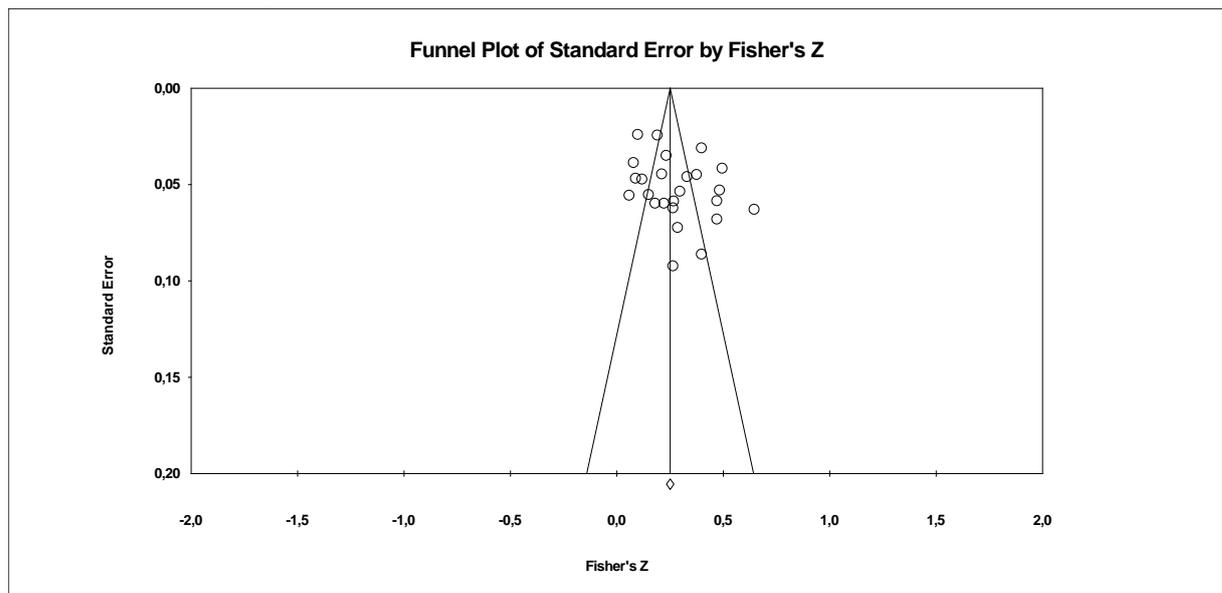
Publication bias analysis

Figure 2. Funnel plot regarding the data set

The Funnel plot regarding the data set is presented in Figure 1. The figure demonstrates the distribution among effect sizes and standard errors. The distribution of the effect sizes constituting the data set was symmetrical compared to standard errors. The symmetrical distribution indicates that the data set does not have a significant level of publication bias. Similarly, Egger's test results revealed that the data set did not have publication bias (t=1,83 p= 0,08). In addition, the results of DTTF showed that there was no need for removing/adding any studies. The results of DTTF are presented in Table 2. These tests proved that the data set did not have publication bias.

Table 2. DTTF test regarding the data set

Data set	Excluded study	ES and 95% confidence interval			Q(top)
		ES	LL	UP	
Observed		0,281	0,222	0,341	256,234
Adjusted	0	0,281	0,222	0,341	256,234

4.3. Moderator analysis for categorical variables

Table 3 presents the results of categorical moderator analysis.

The effect sizes did not differ significantly in terms of leadership scale types, self-efficacy scale type, school level, and publication year.

Table 3. Moderator analysis of the data set

Group	n	ES	LL	UL	Q(b)	df	p
Leadership scale							
MLQ by Bass and Avolio versions	10	0,334	0,232	0,436			
PLQ by Leithwood and Jantzi versions	5	0,279	0,131	0,426			
Hulpia, Devos, and Rosseel versions	3	0,222	0,036	0,407			
Others	7	0,238	0,119	0,358	1,922	3,000	0,589
Self-efficacy scale							
Tschannen-Moran and Hoy	12	0,303	0,216	0,390			

Others	13	0,262	0,177	0,347	0,432	1,000	0,511
School level							
Elementary	7	0,268	0,153	0,382			
Secondary	10	0,246	0,149	0,343			
Mixed	8	0,338	0,231	0,446	1,632	2,000	0,442
Year							
2008-2014	5	0,228	0,094	0,362			
2015-2021	20	0,296	0,228	0,363	0,773	1,000	0,379

Meta-regression analysis for continuous variables

Table 4 presents the meta-regression analysis results regarding continuous variables. As is evident in Table 4, the power distance orientation of cultures predicts effect sizes positively (β=0,004 p<0,05). Cultures with power distance orientation produced larger effect sizes. In other words, the relationship between transformational leadership and teacher self-efficacy is stronger in cultures with a high orientation of power distance. Additionally, countries' individualism orientation predicted effect sizes negatively (β=-0,003 p<0,05). Cultures with higher levels of orientation towards individualism produced weaker effect sizes. In other words, the relationship between transformational leadership and teacher self-efficacy is weaker in cultures with high individualism orientation. Finally, the indulgence orientation of cultures negatively predicted the effect sizes (β=-0,003 p<0,05). The cultures with high indulgence orientation produced lesser effect sizes. In other words, the relationship between transformational leadership and teacher self-efficacy is weaker in cultures with high indulgence orientation. On the other hand, masculinity, uncertainty avoidance, and long-term orientations did not predict the effect sizes statistically significantly.

Table 4. Meta-regression analysis of continuous variables in the data set

Variable (k)	β	S.E.	LL	UL	z	p
PDI (24)						
Slope	0,004	0,001	0,001	0,006	3,427	0,001
Intercept	0,012	0,079	-0,142	0,167	0,158	0,874
IDV (24)						
Slope	-0,003	0,001	-0,005	-0,001	-3,246	0,001
Intercept	0,426	0,053	0,312	0,532	7,918	0,001
MAS (24)						
Slope	0,002	0,0017	-0,0016	0,005	1,02	0,307
Intercept	0,189	0,088	0,016	0,361	2,149	0,031
UAI (24)						
Slope	-0,002	0,001	-0,004	0,001	-1,429	0,152
Intercept	0,373	0,076	0,224	0,523	4,902	0,001
LOI (24)						
Slope	-0,0016	0,001	-0,004	0,001	-1,198	0,231
Intercept	0,365	0,083	0,203	0,528	4,401	0,001
IVR (23)						
Slope	-0,004	0,001	-0,007	-0,001	-2,342	0,019
Intercept	0,464	0,085	0,298	0,631	5,464	0,001

5. DISCUSSION

The current study revealed a weak relationship between transformational leadership and teacher self-efficacy (ES=0.28). In his meta-analysis study, Kirk (2016) also reported a weak relationship between transformational leadership and teacher self-efficacy (ES=0,30). Additionally, the meta-analysis by Alanoğlu (2021) also reported a low-level relationship between instructional leadership and teacher self-efficacy (ES=0,41). The literature lends its supports the results of the current study.

This study found that the power distance orientation of cultures positively predicted the relationship between transformational leadership and teacher self-efficacy. The relationship between transformational leadership and teacher self-efficacy is more robust in countries with high power distance orientation. Some meta-analysis studies on transformational leadership and organizational outcomes indicated the moderator role of power distance in this relationship (Jackson et al., 2013; Leong & Fischer, 2011; Zhao et al., 2021). On the other hand, in their meta-analysis study including various institutions, Li et al. (2021) manifested that power distance was not a moderator in the relationship between transformational leadership and employee engagement. This inconsistency may result from the fact that this study included studies only on school context. Schools are bureaucratic organizations, and hierarchy and status are significant in bureaucratic structures. Therefore, power distance may moderate the relationship between transformational leadership and teacher self-efficacy in schools.

The current study results also revealed that the individualism orientation of cultures negatively predicted the relationship between transformational leadership and teacher self-efficacy. This is to say that the collectivist orientation of cultures positively predicted the relationship between transformational leadership and teacher self-efficacy. The meta-analysis studies on the relationship between transformational leadership and organizational outcomes also identified individualism orientation as a moderator variable (Crede et al., 2019; Gui et al., 2020; Jackson et al., 2013). The relationship between transformational leadership and teacher self-efficacy is stronger in cultures with high collectivist orientation. This result may be related to more effective interaction among leaders and members in highly collectivist cultures because group and institutional interests are more significant in these cultures.

Finally, this study unearthed that indulgence orientation of cultures negatively predicted the relationship between transformational leadership and teacher self-efficacy. Meta-analysis studies on the relationship between transformational leadership and organizational outcomes also identified indulgence orientation as a moderator variable (Crede et al., 2019; Li et al., 2021). The relationship between transformational leadership and teacher self-efficacy is weaker in countries with high indulgence orientation, indicating a more substantial relationship in restraining cultures. This result may stem from the facts that the interaction among leaders and members depends on rules in these cultures, or abiding rules or leaders is more welcome in restraining cultures.

6. CONCLUSION

The findings of this study revealed a weak relationship between transformational leadership and teacher self-efficacy. In addition, according to the findings, it can be said that power distance orientation of cultures positively predicts the relationship between transformational leadership and teacher self-efficacy and individualism orientation of cultures

negatively predicts the relationship between transformational leadership and teacher self-efficacy. Finally, as another finding of this study, indulgence orientation of cultures negatively predicts the relationship between transformational leadership and teacher self-efficacy

7. SUGGESTIONS

First, this study is limited to studies published in English. Future research may include studies published in other languages. Second, this study is limited to articles. Future studies may include graduate theses. Third, this study is limited to data from 15 countries. A significant limitation was that there were no studies from the American continent. Independent studies should be conducted on this continent. Fourth, the evaluation of cultural values is limited to the index by Hofstede et al. (2010). Future studies may use different cultural evaluation indices, such as the Global Leadership & Organizational Behavior Effectiveness (GLOBE) (GLOBE, 2021).

DECLARATIONS

Author Contributions All authors contributed to the study conception and design. Data collection and analysis were performed by the first author. The first draft of the manuscript was written by both authors and all authors commented on previous versions of the manuscript. All authors read and approved the final manuscript.

Conflicts of Interest authors declare no conflict of interest.

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APPENDIX I. : Studies Included in the Meta-Analysis

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ABOUT THE CONTRIBUTORS

Metin Kaya: Istanbul Medipol University, Faculty of Education, Department of Educational Sciences, 34815, Istanbul, Türkiye.
Email: metinkaya439@gmail.com
ORCID ID: 0000-0002-8287-4929

Mehmet Koçyiğit: Afyon Kocatepe University, Faculty of Education, Department of Educational Sciences, 03200 Afyonkarahisar, Türkiye.
Email: mkocyigit@aku.edu.tr
ORCID ID: 0000-0002-1836-844X