# The effect of leadership on organisational commitment:
# A meta-analysis

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**Abstract**

This research aims to investigate the effects of leadership behaviour of school principals on teachers' organisational commitment in Turkey. The method of meta-analysis is used to calculate the effects size of leadership on teachers' organisational commitment. Besides this, leadership style, publication type and publication year are used as moderators in order to explain variation in effect sizes. The analysis results of the random effect model showed that leadership has a very strong and positive effect on teachers' organisational commitment. Particularly, supporting, democratic and transformational leadership styles affect organisational commitment of teachers more than other leadership approaches. However, except leadership styles, the other moderators chosen for the research are not a powerful determinant of the relationship between school leadership and organisational commitment.

**Keywords:** Leadership, organisational commitment, meta-analysis.

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## 1. Introduction

The concept of organisational commitment has grown in popularity in the literature on organisational psychology (Cohen, 2003). Porter, Steers, Mowday and Boulian (1974, p 604) viewed the organisational commitment as one-dimensional and described it as 'an attachment to the organisation, characterised by an intention to remain in it; an identification with the values and goals of the organisation; and a willingness to exert extra effort on its behalf'. On the other hand, Meyer and Allen (1984) initially viewed organisational commitment as two-dimensional, namely affective and continuance and (1984, p. 375) defined the first dimension, namely affective commitment as 'positive feelings of identification with, attachment to and involvement in the work organisation', and they defined the second dimension, namely continuance commitment as 'the extent which employees feel committed to their organisation by virtue of the costs that they feel are associated with leaving'. After further research, Allen and Meyer (1990) added a third dimension, namely normative commitment. Allen and Meyer (1990, p. 6) define normative commitment as 'the employee's feelings of obligation to remain with the organisation'.

A three-component model consists of the following: Affective commitment is the desire to remain a member of an organisation due to an emotional attachment to the organisation (Allen & Meyer, 1990). Affective commitment is conceptualised as 'a psychological state that characterises an employee's relationship with their organisation' (English, Morrison & Chalon, 2010, p. 395). Normative commitment is a desire to remain a member of an organisation due to a feeling of obligation (Allen & Meyer, 1990). Meyer and Herscovitch (2001) defined normative commitment as 'the mindset that one has an obligation to pursue a course of action of relevance to a target' (p. 316). Continuance commitment is a desire to remain a member of an organisation because of awareness of the cost associated with leaving it (Allen & Meyer, 1990). Meyer and Herscovitch (2001) described continuance commitment as 'the perception that it would be costly to discontinue a course of action' (p. 316).

It is generally acknowledged that the level of organisational commitment is dependent on the leadership characteristics of an organisation's key person. Recent definitions characterise leadership as the process by which top managers intentionally exert influence over 'other people to guide, structure and facilitate activities and relationships in a group or organisation' (Yukl, 2013, p. 18). In recent years, leadership styles have become an important topic of study in the management field, and many researchers consider leadership style as an important variable in influencing how members of an organisation function (Wu, 2009). Leaders have adopted various styles when they lead others in the organisation (Brown, 2003; Cheong, 2008; Chiang & Wang, 2012). Some are using democratic, people or relationship centred approach and others prefer autocratic, production centred method in order to achieve a similar goal, which is organisational effectiveness. Some are focusing on change and transformation in order to perform beyond expectations.

An important number of research studies provided significant results putting forth that leadership behaviour has a positive effect on organisational commitment (Adebayo, 2010; Akbolat, Isik & Yilmaz, 2013; Avolio, Zhu, Koh & Bhatia, 2004; Huang, 2000). This research aims to investigate the effects of leadership behaviour of school principals on teachers' organisational commitment in Turkey. The method of meta-analysis is used to calculate the effects size of leadership on teachers' organisational commitment. Besides this, leadership style, publication type and publication year are used as moderators in order to explain variation in effect sizes. These variables were used to test the following hypotheses of this study:

H1 Leadership behaviour of school principals has a positive effect on teachers' organisational commitment.

H2: Leadership style is a moderation variable for the positive effect of school leadership on teachers' organisational commitment.

H3: The publication type is a moderation variable for the positive effect of leadership behaviour of school principals on teachers' organisational commitment.

H4: The publication year is a moderation variable for the positive effect of leadership behaviour of school principals on teachers' organisational commitment.

## 2. Method

In parallel with the aim, meta-analysis, which is described as the process of re-evaluation of the results of individual studies through statistical procedures, is used as the research method. Meta-analysis is a method of combining the results of multiple, independent studies on a specific subject and applying the statistical analysis of the research findings obtained. This method provides quantitative data summarising the results of various studies to researchers with a common judgment (Chin, 2007; Lipsey & Wilson, 2001; Robinson, Lloyd & Rowe, 2008).

Meta-analysis aims to reach all published or unpublished data (dissertations, master thesis, articles, proposals and books) on the subject. However, in this study, only dissertations, master thesis and articles published in refereed journals are included. The literature review was made in Council of Higher Education in Turkey (YOK), Turkish Academic Network and Information Center (ULAKBIM) and academic databases containing abstracts and contents of quantitative studies on the topic of leadership and organisational commitment. The keywords used in searching the studies were 'leader', 'leadership', 'leadership behaviour', 'organisational commitment', 'organisational identification', 'organisational sense of belonging' and 'work engagement'. The criteria used in the selection of the studies included in the survey are the release date of research studies is between January 2000 and December 2018, the effect of leadership behaviour of school principals on teachers' organisational commitment and statistical data of sample size, Pearson r for calculation of effect size and the sample should be in Turkey. Following the formation of coding book and expert opinions, moderator variables were identified and 37 research studies out of 51 were included in the study.

In the study, the analysis was done in two parts. First, a descriptive analysis of the studies involved in the research was conducted using percentage and frequency values. After all these operations, the meta-analysis technique was in the second part. Comprehensive meta-analysis 2.0 was used in the meta-analysis process. The main purpose of the meta-analysis in which correlation studies are used is to determine the average effect size value and homogeneity by combining the relevant data. The effect sizes obtained can be interpreted by comparing them with some criterion values. For Cohen, Manion and Morrison (2007, p. 221), the effect size values based on the correlation are interpreted as follows:

$0 \leq$ effect size $< 0$, 10 small effect

$0, 1 \leq 0$ effect size $< 0$, 30 modest effect

$0, 30 \leq 0$ effect size $< 0$, 50 moderate effect

$0, 50 \leq 0$ effect size $< 0$, 80 strong effect

effect size $\geq 0$, 80 very strong effect

There are two basic models of meta-analysis: fixed-effect model and random-effects model. When deciding on which model to use, it is necessary to look at the features of the investigations involved in the meta-analysis (Borenstein, Hedges, Higgins & Rothsteini, 2009, Hedges & Olkin, 1985; Kulinskaya, Morgenthaler & Staudte, 2008). Fixed-effect model is estimated using maximum likelihood (all studies included are functionally identical) and calculating the effect size for a defined population. By contrast, it is unlikely that all the studies are functionally equivalent, and generalisations can be made to a larger population where the random-effects model is more justifiable than the fixed-effects model (Karadag, Bektas, Cogaltay & Yalcin, 2015). In the study, the fixed-effect model was used first. It was observed that homogeneity could not be achieved in the fixed-effect model (depending on the results

of heterogeneity test, the research is not equal in terms of functionality (Q > X², see Table 3) and then the random-effects model was applied. A significance level of 0.05 was chosen for all statistical calculations in the study.

Moderator analysis is a method that allows testing the differences between the mean effect sizes of variables (moderators) and the direction of differences between subgroups. The statistical significance of the difference between the moderator variables is tested by the Q statistic method developed by Hedges and Olkin (1985). In this method, Q is divided into two, Q between [Qb] and Q within [Qw], and the analyses are carried on over these two different Q's. Qw tests the homogeneity of the moderator variable in itself, whereas Qb tests the homogeneity between the groups (Borenstein et al., 2009; Hedges & Olkin, 1985; Kulinskaya et al., 2008). In this study, only the Qb values were used for the statistical significance of the differences between moderators.

## 3. Findings

In this section, the descriptive analysis of the studies included in the research was done and then the meta-analysis method was applied to combine the data. The data related to the studies are presented in the following tables using frequency and percentage values. Table 1 shows the descriptive analysis of the studies examined in the research.

Table 1 shows that 37 data sets related to the research subject are included in the study. In particular, it is observed that the relationship between the organisational commitment of teachers and the supportive, ethical, democratic and instructional leadership of the school principal is investigated more (62.26%). When we look at the distribution of the studies according to years, it is seen that the majority of the works (70.27%) are produced in 2011 and beyond.

**Table 1. Descriptive analysis of the studies included in the meta-analysis (*f* and %)**

| | | Frequency (*f*) | Percentage (%) |
|---|---|---|---|
| Leadership | Supporting leadership | 7 | 18.92 |
| | Ethical leadership | 6 | 16.22 |
| | Democratic leadership | 5 | 13.51 |
| | Instructional schoolboy | 5 | 13.51 |
| | Transformational leadership | 3 | 8.11 |
| | Leader member interaction | 2 | 5.41 |
| | Visionary leadership | 1 | 2.70 |
| | Servant leadership | 1 | 2.70 |
| | Cultural leadership | 1 | 2.70 |
| | Situational leadership | 1 | 2.70 |
| | Demonstrating general leadership behaviour | 5 | 13.51 |
| Publication year | 2000–2010 | 11 | 29.73 |
| | 2011–2017 | 26 | 70.27 |
| Publication type | Yuksek Lisans Tezi | 23 | 62.16 |
| | Doktora Tezi | 8 | 21.62 |
| | Makale | 6 | 16.22 |
| The level of education | Primary | 31 | 83.78 |
| | Secondary | 2 | 5.41 |
| | Primary and secondary | 4 | 10.81 |

This shows that the relationship between teachers' organisational commitment and the leadership of the school principals has been frequently studied by researchers in recent years. Approximately two-thirds of the studies (62.16%) are in the type of master's thesis, and the majority (94.59%) are produced in primary schools. The distribution of the effect size levels of the studies included is given in Table 2.

**Table 2. Direction of the effect sizes**

| Direction of effect sizes | *ƒ* | % |
|---|---|---|
| Small | 2 | 5.41 |
| Modest | 4 | 10.81 |
| Moderate | 20 | 54.05 |
| Strong | 10 | 27.03 |
| Very strong | 1 | 2.70 |

When Table 2 is examined, it was seen that the majority of studies (81.08%) have moderate and strong relations between the organisational commitment of the teachers and the leadership of the school principal. Only two studies show small effect size values. The effect size value of the studies is analysed according to fixed-effects model and the distribution is given in Table 3.

**Table 3. Correlation between leadership style and organisational commitment: The fixed-effect model**

| Leadership Style | *ƒ* | ES | 95% Confidence interval | | Q |  | *p* |
|---|---|---|---|---|---|---|---|
| | | | Lower | Upper | | | |
| Supporting leadership | 7 | 1.228 | 1.143 | 1.313 | 81.651 | 11.592 | 0.000 |
| Transformational leadership | 3 | 1.125 | 1.007 | 1.244 | 10.153 | 5.991 | 0.006 |
| Democratic leadership | 5 | 1.116 | 0.974 | 1.258 | 36.141 | 9.488 | 0.000 |
| Ethical leadership | 6 | 0.818 | 0.743 | 0.892 | 26.768 | 11.071 | 0.000 |
| Instructional leadership | 5 | 0.817 | 0.709 | 0.925 | 51.144 | 9.488 | 0.000 |
| Leader member interaction | 2 | 0.738 | 0.631 | 0.845 | 4.127 | 3.841 | 0.042 |
| General | 37 | 0.897 | 0.862 | 0.931 | 537.423 | 49.571 | 0.000 |

In Table 3, the meta-analysis of leadership style and organisational commitment of teachers using the fixed-effect model is shown. The effect size value (*mean r*) is calculated in order to determine the strength and direction of the relationship between leadership style and organisational commitment of teachers. The average effect size values were found to be very strong (overall average effect size value: 0.897). The finding supports *H1* supposing that there is a positive relationship between leadership behaviour of school principals and teachers' organisational commitment. In detail, supportive, transformational and democratic behaviours of the school principals affect teachers' organisational commitment positively and very strongly. Depending on the heterogeneity, the effect size distributions of the studies were found to be heterogeneous in the model of fixed effects. For this reason, it was understood that the use of random-effects model would be more appropriate.

**Table 4. Correlation between leadership style and organisational commitment: The random-effect model**

| Leadership style | *ƒ* | ES | 95% Confidence interval | |  | Q  | *p* |
|---|---|---|---|---|---|---|---|
| | | | Lower | Upper | | | |
| Supporting leadership | 7 | 1.234 | 0.911 | 1.558 | | | |
| Transformational leadership | 6 | 1.394 | 0.918 | 1.871 | | | |
| Democratic leadership | 6 | 0.826 | 0.645 | 1.007 | | | |
| Ethical leadership | 5 | 0.872 | 0.456 | 1.287 | 12.839 | 11.071 | 0.025 |
| Instructional leadership | 3 | 1.096 | 0.823 | 1.369 | | | |
| Leader member interaction | 2 | 0.736 | 0.518 | 0.954 | | | |
| General | 37 | 1.002 | 0.863 | 1.140 | | | |

Depending on the results of the heterogeneity test, the random-effect model is applied (Table 4). When Table 4 is examined, it is observed that the heterogeneity values between the groups (12.839) are higher than the squared table values (11.071) and this result shows that they have heterogeneous characteristics. Particularly, supporting, democratic and transformational leadership styles affect organisational commitment of teachers more than other leadership approaches.

**Table 5. Meta-analysis for publication year as a moderator: The random-effect model**

| Publication year | f | ES | 95% Confidence interval | | Heterogeneity test | | |
|---|---|---|---|---|---|---|---|
| | | | Lower | Upper |  |  | p |
| 2000–2010 | 11 | 1.046 | 0.794 | 1.299 | 0.171 | 3.841 | 0.679 |
| 2011–2017 | 26 | 0.983 | 0.816 | 1.150 | | | |

When Table 5 is examined, according to the random-effects model, the heterogeneity value between the groups (0.171) is lower than the chi-square values (3.841). In this context, it can be said that the moderator variable does not explain the cause of heterogeneity and that the findings of the studies are close to each other.

**Table 6. Meta-analysis for publication type as a moderator: The random-effect model**

| Publication type | f | ES | 95% Confidence interval | | Heterogeneity test | | |
|---|---|---|---|---|---|---|---|
| | | | Lower | Upper | Lower |  | p |
| Master thesis | 23 | 1.061 | 0.861 | 1.261 | | | |
| Dissertation | 8 | 0.856 | 0.647 | 1.064 | 2.115 | 5.991 | 0.347 |
| Article | 6 | 0.883 | 0.534 | 1.232 | | | |

When Table 6 is examined, in terms of the type of publication, the heterogeneity value between the groups (2.115) is lower than the chi-square values (5.991). In this context, it is possible to tell that the publication variable as a moderator did not explain the cause of heterogeneity and that the findings of the studies are close to each other in the studies.

It is also important to examine the bias of publications included in the study in meta-analysis studies. Publishing bias is basically based on the assumption that all of the research on a topic has not been published. Since it is not deemed worth, specifically, to publish investigations in which statistically significant relationships cannot be found or low levels of relations are identified, this affects the total effect size level negatively and increases the mean effect size prejudicially (Borenstein et al., 2009).

In this context, the probability of publication bias in meta-analysis studies is examined. A number of calculation methods are used to give a statistically answer as to whether there is publication bias in meta-analyses. Classic false-safe N analysis was also used to determine whether the publication bias was present in the study. The results of the analysis are presented in Table 7.

**Table 7. The results of classic false-safe *N* results**

| The power of meta-analysis | |
|---|---|
| *Z*-value | 41.37 |
| *p*-value | 0.00 |
| α-value | 0.05 |
| α value for *Z* | 1.94 |
| Number of observed studies | 37 |
| Number of missing studies that would bring *p*-value to > α | 4651 |

According to the findings obtained, 4,651 individual studies should be added to the analysis in order to override the result of the meta-analysis study ($p < 0.05$). This information shows that there is no bias in this meta-analysis study.

## 4. Conclusion and discussion

Thirty-seven research studies were included in the meta-analysis to determine the effect size value for the effect of leadership on organisational commitment. Leadership style, publication type and

publication year were chosen as moderator variables. According to the research results, leadership has a very strong and positive effect on teachers' organisational commitment, providing support for hypothesis 1. An impressive amount of past research results supported the positive linkage between leadership and organisational commitment (Avolio et al., 2004; Dunn, Dastoor & Sims, 2012; Howell & Hall–Merenda, 1999). For example, Yiing and Ahmad (2009) produced empirical evidence that leadership behaviours were positively related to organisational commitment. It was found that individuals are highly committed and highly involved in their organisation when their leaders adopt directive, participative and supportive leadership behaviours (Rusliza & Fawzy, 2016, p. 205). Similarly, Lok and Crawford (2004) found that leadership style positively influences the level of employees' commitment. Also, Stum (1999) implied that leadership has a significant correlation or relationship with employees' commitment and suggested a positive direct relationship between leadership behaviours and employees' commitment. In a meta-analysis of 77 studies, Cogaltay and Karadag (2016) obtained that educational leadership has a large positive impact on organisational commitment perception of the teachers.

In this research study, except leadership styles, the other moderators chosen for the research are not a powerful determinant of the relationship between school leadership and organisational commitment. The effect sizes between the publication types and publication year were not statistically significant. However, leadership style is a moderation variable for the positive effect of school leadership on teachers' organisational commitment. Particularly, supporting, democratic and transformational leadership styles affect organisational commitment of teachers more than other leadership approaches. A number of studies stated that supportive behaviour of leaders is significant for the level of commitment in organisations (Butcher, 1994; Shadur, Kienzle & Rodwell, 1999). Besides this, Gulluce, Kaygin, Bakadur Kafadar and Atay (2016) have found a positive moderate relationship between the transformational leadership scale and the organisational commitment scale. In other words, transformational leaders increase organisational commitment with their transformational leadership attitudes and behaviours. Lee (2008) found out that transformational leadership significantly correlates with organisational commitment. In addition, Hayward, Goss and Tolmay (2004) noted that transformational leadership has a moderate positive correlation with affective commitment. Noraazian & Khalip (2016) found out that the high level of transformational leadership practices undertaken by school principals had a significant impact on the teachers' commitment. Additionally, in a meta-analysis of 20 surveys in Turkey, which was conducted by Aydin, Sarier Y and Uysal (2013) demonstrated that transformational leadership also has a positive influence on organisational commitment. Kouni, Koutsoukos and Panta (2018) showed that teachers feel a substantial commitment to school goals when the school principal acts as a transformational leader. Not only supportive and transformative leaders but also democratic leaders have an affirmative impact on organisational commitment (Rafferty & Griffin, 2006).

When we remember the definition of leadership as 'the ability of an individual to influence, motivate and enable others to contribute towards the effectiveness and success of organisations of which they are members' (House, Wright & Aditya, 1997, p. 548), its critical role for organisations in reaching their goals will be understood better. Organisational commitment is more than employee satisfaction and it is closely related to organisational goals with positive organisational outcomes like productivity, quality and profitability (Huselid, 1995; MacDuffie, 1995). To sum up, leadership is very much contingent on the organisational commitment, thus enabling individuals to release their creativity and to contribute towards organisational development initiatives. It is crucial to recommend that organisations introducing supporting, democratic and transformational leadership styles are needed for the development of them. In addition, programmes and workshops for professional development including skills would be recommended to develop organisational commitment.

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