The Effect of Educational Leadership on Organizational Variables: A Meta–Analysis Study in the Sample of Turkey

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Abstract
The purpose of this study is to test the effect of educational leadership on some organizational variables using meta–analysis method. In this context, the results of independent researches were merged together and the hypotheses created within the scope of the study were tested. In order to determine the researches to be included in the study, first of all, a literature review was made in YOK, ULAKBIM, and Google Scholar databases. The findings of the researches, which have been conducted between the years 2000–2013, were included in the analysis; July 2013 has been set as the latest date. Using the developed scanning strategy, a total of 77 researches were reached and appropriate correlational data from these researches were included in the meta–analysis. The distribution of the researches according to topics is as follows: educational leadership and job satisfaction 14, organizational justice 9, organizational commitment 24, organizational trust 5, organizational citizenship 7, performance 5, organizational culture 4 and organizational climate 9. All meta–analysis are based on random effects model. The findings showed that educational leadership has large positive effects on job satisfaction \( r = .56 \), organizational justice \( r = .75 \), organizational commitment \( r = .43 \), organizational trust \( r = .73 \), organizational culture \( r = .56 \) and organizational climate \( r = .50 \), whereas it has medium positive effects on organizational citizenship \( r = .35 \) and performance \( r = .36 \).

Keywords
Leadership • Educational leadership • Organizational variables • Meta–analysis

* This article has been prepared benefiting from doctoral dissertation of Dr. Nazım Çağaltay in consultation with Prof. Dr. Engin Karadağ.

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Citation: Çağaltay, N., & Karadağ, E. (2016). The effect of educational leadership on organizational variables: A meta–analysis study in the sample of Turkey. Educational Sciences: Theory & Practice, 16, 603-646.
Leadership, which is prominent in every occasion where the concept of organization is articulated and which is addressed in different dimensions by each organization, is a concept that is very important in the field of education, and it is becoming the subject of many researches. In the literature of educational research, schools and school administrators are the first subjects that come to mind when leadership is mentioned. In this regard, school administrators are expected to show leadership behaviors, such as providing guidance, supporting, assigning a measurable responsibility and being a source of inspiration to all school employees and students in order to achieve the aims of the school. In addition, school leaders should form the ground that provides in–class reform and development, in order to create a positive learning environment in the school (Nichols, 2011). In this context, the studies of educational leadership have emerged in 1970s, in conjunction with research and development activities related to the effective schools movement. In those years, based on the observations of primary schools, some researchers in the UK and North America have identified that some schools’ achievements in terms of learning outcomes were bigger than others. They have stated that this situation cannot be solely explained with the individual and social characteristics of the students; therefore the difference between effective and ineffective schools might be associated with the leadership attitudes and behaviors that school administrators have exhibited. Thus, educational leadership became a concept that has been discussed a lot on it. According to these researchers, the characteristics of effective schools’ leaders are (Krüger & Scheerens, 2012);

- They are directly involved with the school and the education of students.
- They carefully evaluate teachers’ classroom performance, learning process and student outcomes again and again.
- They create a work environment and school climate which will make learning possible for all children.

Schlechty (2001) has stated that the main task of the school is working with knowledge. This idea is based on the fact that learning is an active process. Thus, he argued that schools should be institutions working towards an objective with the help of the ideas, concepts, forms, shapes and symbols. Although the schools are solely seen as the places where learning takes place, in reality it is well–known that they are the institutions beyond mere learning, with a much more complex structure. From this perspective, even though schools are a tool for generating and transferring the culture, they are also the places where the official ideology is produced and communicated (Ilich, 1998). The effectiveness of such a complex structure, with its social, cultural, economic and political aspects has become attractive for researchers.

One of the most critical factors in the realization of effective schools is the leadership behaviors of school administrators. In the literature this type of leadership
is discussed in different forms and dimensions, such as *education leadership*, *instructional leadership*, *program leadership*, and *educational leadership*. At the beginning, this concept has been discussed in a limited context, as *course and program leadership*, however later it was considered in a broader sense to include the mentioned dimensions, in terms of the concepts such as *educational leadership*, *education and training leadership*. Although it is called by different names, it can be understood that these leaderships basically refers to the school administrators who were trying to establish effective schools and learning.

School leader is the person who is planning and implementing program development, making appropriate resource allocation, improving the performance of staff and students by motivating and guiding them, in order to achieve the objectives of the school. School leaders, after setting the objectives of the school, ensure that these objectives are shared and supported by the students, teachers and school community. In addition, the school leader is a leader who also leads the external environment well. He performs the activities such as, directing the activities of the employees and students from other fields to the school, dragging local community organizations to cooperate with schools or benefiting from the families and commercial organizations (Bushur, Harris, & Wise, 2000). In short, the school leader has undertaken the responsibility of ensuring the highest level of learning and student success.

It is seen that educational leadership studies don’t solely focus on the characteristics of the leader, such a good leader, a successful leader, at the same time the output of the school is also considered as a form of organization. It is assumed that many organizational variables, such as organizational trust, justice, commitment, performance, success, are associated with the attitude and behaviors of the leader. In this sense, the literature contains many studies that examine the relationship between educational leadership and organizational variables. There are studies examining the relationship between leadership and various variables, such as *organizational culture* (Karadağ, 2009; Koşar & Çalık, 2011, Turan & Bektas, 2013), *organizational climate* (Şentürk & Sağnak, 2012), *performance* (Özmen, 2005), *job satisfaction* (Yılmaz & Ceylan, 2011), *organizational commitment* (Buluç, 2009), *burnout* (Cerit, 2008) in the sample of overall Turkey. Also in the international literature it is possible to find many researchers testing the relationship between leadership and different organizational variables (Griffith, 2004; Khasawneh, 2001; Lok & Crawford, 2004; Zoppiatis & Constanti, 2010).

Nowadays, as in all fields, it is possible to see that the studies investigating the effect of various organizational variables on educational leadership is rapidly increasing. It can be seen that there are numerous studies conducted on a particular issue, independent of each other, and in some cases they may contain different results conflicting with
each other (Şahin, 2011; Yılmaz, & Altınkurt, 2012; Yörük & Sağban, 2012; Zeren, 2007). This situation, which is one of the impasses of social sciences, shows that more inclusive and interpretive studies are needed (Hedges & Olkin, 1985). In order to interpret this pile of information and to open the way for new researches, top quality inclusive and reliable studies should be conducted. In social sciences, a single study or a single experiment cannot be expected to produce sufficiently accurate results. Moreover, researches are mandatorily carried out in limited areas, for reasons such as cost, time, and place; therefore it is quite difficult to ensure consistency between different studies. In order to show the big picture to both educational politicians and educational scientists, the synthesis and interpretation of the studies that attempt to explain similar problems are sorely needed (Akgöz, Ercan, & Kan, 2004).

It is possible to show the big picture to the researchers through meta–analysis method, which allows merging many studies and analyzing their results (Kulinskaya, Morgenthaler, & Staudte, 2008). Regarding the studies in the education field, it can be said that there is a need of information; however the effectiveness of the results should be numerically proven, they should be applicable and they should form a basis for new studies (Özcan, 2008). Especially, in Turkey the studies examining the effect of educational leadership on organizational variables through meta–analysis are limited, which implies that this shortcoming should be fulfilled.

Although meta–analysis studies are limited in Turkey, in international literature there are meta–analysis studies featuring educational leadership and organizational variables. In the research conducted using meta–analysis method, Brown (2001) has identified a positive relationship between school administrators’ leadership behaviors and school effectiveness. Jackson (2010), in his study conducted via meta–analysis method, has determined that there is a positive relationship between leadership styles and the dimensions of organizational commitment (affective and normative). Similar studies can be found in the literature (Scheerens, 2012; Schyns & Schilling, 2013). In Turkey, the lack of a large–scale meta–analysis that examines the effect of educational leadership on some organizational variables has formed the objective of this study. The results to be achieved with this study are vital for determining the effect of school administrators’ leadership behavior on some organizational variables.

Educational Leadership and Job Satisfaction

Job satisfaction is related to the employee’s general attitude towards job–related components, regardless of (s)he likes the job or not (Shields, 2007; Shraibman, 2008). In this sense, job satisfaction is a mixture of; (i) affective, (ii) cognitive, and (iii) behavioral characteristics (Willson, 2009). According to some definitions, job satisfaction expresses how a person can be happy with the job while doing the job (Wray, Luft & Highland, 1996). Making the literal definition of job satisfaction is as difficult as defining happiness.
The uncertainty of what makes a person happy and also to what extent that the same thing can make another person happy, express the difficulty encountered while defining job satisfaction. Schultz and Schultz (2005), and Verner (2008) define job satisfaction as positive and negative emotions related to the individual’s job.

The studies where the effect of educational leadership on various organizational variables is analyzed are rapidly increasing. In this context, job satisfaction is one of the most researched concepts within the framework of leadership (Schyns & Schilling, 2013). Many studies have indicated a positive relationship between leadership and job satisfaction (Bass & Avolio, 1989; Bogler, 2001; Burns, 2007; Gipe, 1997; English, 2011; Lee, 2007; Lin, 1998; Yang, 2012; Walumbwa, Orwa, Wang, & Lawler, 2005). Herzberg’s (1966) dual factor theory says that, since leader administrators is an important part of the work and they contribute to having a positive or negative experience, leadership behaviors of administrators affect employees’ job satisfaction. In this study the following hypothesis was tested according to the results of the researches in the literature.

H1: There is a positive relationship between educational leadership and job satisfaction

Educational Leadership and Organizational Justice

The concept of organizational justice is one of the concepts that are seriously considered by social scientists; therefore, it is the subject of many researches. Studies related to this concept are based on Adams’ (1965) Equity Theory. Adams (1965) has founded his theory on the assumption that the employees of an organization would compare the gains that they have obtained as a result of the work that they have performed with the gains of the others who were working in other organizations. According to this theory, individuals who work in a certain organization compare the gains obtained as a result of their works with the gains of the employees in other organizations in similar situations. At the end of this comparison, they develop attitudes towards their organization, administrators and work–related issues (Greenberg, 1987). According to Greenberg (1987; 1990), organizational justice is a concept including the perception of how fairly the employees within an organization are being treated and how this perception affects the factors such as organizational commitment and organizational trust. In other words, organizational justice is related to the rules, which have been developed for the distribution of the components, such as workload, service, reward, penalty, and wage among the employees of the organization and the social norms underlying these rules (Folger & Cropanzano, 1998).

There are a number of surveys examining the relationship between leadership and organizational justice. The researches usually show that leadership behavior has
a positive relationship with organizational justice perception (Eberlein & Tatum, 2008; Engelbrecht, Aswegen, & Theron, 2004; Cremer, Dijke, & Bos, 2007; Hoy & Tarter, 2004; Kale, 2013; Pillai, Scandura, & Williams, 1999). Based on the results of previous theory and researches, the following hypothesis was tested in this study.

H2: There is a positive relationship between educational leadership and organizational justice

Educational Leadership and Organizational Citizenship

Organizational citizenship is related to volunteer behaviors of the individual, which help fulfilling the functions of the organization efficiently, without considering formal reward system (Organ, 1988). The concept of organizational citizenship behavior was first observed by Barnard (1938) and called as extra role behavior. This concept is based on the distinctions between the concepts of role performance and spontaneous behavior, which was defined by Katz and Kahn (1966) (DiPaola & Moran, 2001).

Bateman and Organ (1983) has used the concept of organizational citizenship to show the behaviors of the employees, who provide more benefits to the organization by doing more than their duties. Greenberg and Baron (2000) have defined the concept of organizational citizenship as the employee going beyond the obligations, which are formally determined by the organization, doing more than demanded. In the study of DiPaola and Moran, which was the first research featuring organizational citizenship behavior in education field, Organ’s (1988; Organ & Ryan, 1995) organizational citizenship concept was adapted to government schools. Based on the results of previous theory and researches (Appelbaum, Bartolomucci, Beaumier, Boulanger, Corrigan, Dore, Girard, & Serroni, 2004; Bateman & Organ, 1983; Organ, 1988; Strickland, Babcock, Gomes, Larson, Muh, & Secarea, 2007; Shin, 2012; Walumbva, Wu, & Orwa, 2008), the following hypothesis was tested in this study.

H3: There is a positive relationship between educational leadership and organizational citizenship

Educational Leadership and Organizational Commitment

Even though the concept of organizational commitment is the subject of many researches in Social Sciences, we cannot talk about a common definition for it. It can be seen that many different definitions are made about this concept. Wiener (1982) has defined organizational commitment as the sum of internalized normative pressures to act in accordance with the goals of the organization. Meyer and Allen (1991) have expressed this concept as a behavior that shapes the relationship of the employee with the organization, allowing them to get the decision of being a permanent member of it. Organizational commitment is the relative power required for the integration of
an individual with a particular organization (Mowday, Porter, & Steers, 1982). In summary, organizational commitment is a concept which attempts to explain people’s attitudes and behavior towards their work (Mathews & Shepherd, 2002).

It is possible to find researches measuring the relationship between educational leadership and organizational commitment perceived by teachers (Avolio, Zhu, Koh, & Bhatia, 2004; Dunn, Dastoor, & Sims, 2012; Howell & Hall–Merenda, 1999; Hulpia, Devos, & Keer, 2011; Jackson, Meyer, & Wang, 2013; Kirkpatrick & Locke, 1996; Khasawneh, Omari, & Abu–Tineh, 2012; Leithwood & Sun, 2012; Lok & Crawford, 2004; Thamrin, 2012). Researchers often believe that there is a relationship between the behaviors of school administrators and teachers’ organizational commitment. It is believed that the leadership skills of school administrators play an important role on teachers’ commitment perceptions. Based on the results of previous theory and researches, the following hypothesis was tested in this study.

H4: There is a positive relationship between educational leadership and organizational commitment

**Educational Leadership and Organizational Trust**

Trust is the belief of the individual about other person’s behavior will evolve in a way that would meet his/her expectations without feeling any pressure and at the same time being open to the actions of the other person without feeling a need to defend himself (Curral & Epstein, 2003). In addition, trust is one of the important elements of effective relationships (Clarke, 2002). It can be seen that many different definitions are made in the relevant literature about organizational trust. Lewicki, McAllester, and Bles (1998) have defined organizational trust as the faith of the individual towards the practices and policies of the organization, which may affect him/her, even in risky cases, and supporting these practices. According to Mishra (1996), organizational trust is the demand of the individual from the organization to be open, honest, relevant, and credible in its relationships, interactions, cultural structure and communication.

Organizational trust is examined in four dimensions, namely (i) sensitivity to employees, (ii) trust to administrators, (iii) communication environment, and (iv) openness to innovation (Yılmaz, 2006). Trust to administrators, which one of these dimensions, refers to the belief of the employees of the organization about the administrators’ honesty and faithfulness to his word (Tschannen–Moran & Hoy, 1998). Trust is important in terms of achieving success in school, establishing healthy relationship between teachers and administrators and creating a better educational environment. There are five basic criteria of establishing trust in the school, which are benevolence, reliability, competence, honesty and openness (Tschannen–Moran
& Hoy, 1998). In this context, it is considered that there is a relationship between educational leadership and teachers’ trust towards their school, and numerous studies were conducted about this issue (Joseph & Winston, 2005; Lawall & Oguntuashe, 2012; Lewick, McAllester, & Bles, 1998; Podsakoff, MacKenzie, & Bommer, 1996; Top, Tarcan, Tekingündüz, & Hikmet, 2013; Velez & Strom, 2012). Based on the results of previous theory and researches, the following hypothesis was tested in this study.

H5: There is a positive relationship between educational leadership and organizational trust

Educational Leadership and Performance

Performance is a concept frequently used, especially in the field of human resource management, however there is not a consensus on its definition and boundaries (Çalık, 2003). Performance is defined as the success in business or the degree of the success in any business. In the simplest sense, performance is the contribution that an employee has made to the objectives of the organization (Bass, 1985).

Two dimensions of performance are mentioned; (i) individual, and (ii) organizational. Performance evaluation on an individual basis, measures the success of employees in an organization; whereas performance evaluation on an organizational basis implies the presentation of activities performed by the organization, the produced goods and services according to the criteria of frugality, efficiency and effectiveness (Köseoğlu, 2005). One of the factors that affect both individual and organizational performance is the leadership behaviors of the administrators (Bass, 1985). Researches have revealed that there is relationship between administrators’ leadership behaviors and employee’s performance (Friedkin & Slater, 1994; Ishikawa, 2012; Jung, Moon, & Hahn, 2008; Lowe, Kroeck, & Sivasubramaniam, 1996; Rowold, 2011; Wang, Oh, Courtright, & Colbert, 2011). Based on the results of previous theory and researches, the following hypothesis was tested in this study.

H6: There is a positive relationship between educational leadership and performance

Educational Leadership and Organizational Culture

The concept of organizational culture is an organizational concept that is of interest by researchers for many years. In their researches conducted on informal organizations in 1930s and 1940s, Bernard and Mayo (Hoy & Miskel, 2010) have emphasized the importance of feelings, values and group norms that arise from the interactions of the people in the workplace. 30 years after these studies, Katz and Kahn (Unutkan, 1995) have revealed that each organization has a unique culture. According to Schein (1992), organizational culture represents the basic assumptions that enable the adaptation of the employees to the outside world and their consolidation
inside the organization while solving the problems encountered by the organization; these assumptions are values and beliefs. These values and beliefs are learned within the organization, and they are subsequently transferred to the other employees in the organization. Peters and Waterman’s (1995) have defined organizational culture as a structure which is consisted of the stories, beliefs, and slogans formed by the shared and dominant values within the organization.

Over time, every organization develops beliefs, values and traditions, which distinguish it from other organizations. Administrators, who recognize their importance, may shape effective organizations (Bolman & Deal, 2008). In this sense, there is an assumption that there is a relationship between organizational culture and administrators’ leadership behaviors (Flores, 2004; Giritli, Yazıcı, Oraz, & Acar, 2013; Knutson, Miranda, & Washell, 2005; Tsui, Zhang, Wang, Xin, & Wu, 2006). Based on the results of previous theory and researches, the following hypothesis was tested in this study.

H7: There is a positive relationship between educational leadership and organizational culture

Educational Leadership and Organizational Climate
The concept of organizational climate was used by many researchers and organizational theorists in recent years, to describe the general feeling or atmosphere in the schools. The historical roots of the studies on this issue are based on social psychology, and industrial psychology rather than anthropology and sociology (Hoy & Miskel, 2010). In this context, school climate is a set of properties that affect the behavior of each member, which distinguishes the school from others. School climate can be seen as the personality of the school. The climate of the school also affects classroom climate (Çelik, 2002).

The difference between the level of realization of the objectives of the organization and the level of meeting the needs of its members has a big impact on the organizational climate. In this context, organizational climate is the product of the relationships between people and groups (Bursaloğlu, 2005). Thus, it can be said that the leadership behaviors of school administrators are effective in shaping the climate of the school. The leadership behaviors of school administrator determine the atmosphere in the school. This atmosphere is reflected in teachers, students, and other school staff and parents as well (Şentürk & Sağnak, 2012). Based the results of previous theory and researches, the following hypothesis was tested in this study (Black, 2007; Kelley, Thornton, & Daugherty, 2005; Koene, Vogelaar, & Soeters, 2002; Tajasom & Ahmad, 2011; Varner, 2007; Wang & Rode, 2010).
H8: There is a positive relationship between educational leadership and organizational climate

Method

Study Design
In this study, the effect of educational leadership on some organizational variables was tested through meta–analysis method. Meta–analysis is a method that merges the results of many independent researchers conducted on a particular topic and performs statistical analysis (Littel, Corcoran, & Pillai, 2008; Petitti, 2000).

Sample of Studies and Selection Criteria
In meta–analysis studies, all kind of all doctoral and master’s theses, articles published in refereed or non–refereed journals, seminars, papers and books about the topic to be researched can be used. However, in this study doctoral theses, master’s theses and papers published in refereed journals are included. In order to determine the researches to be included in the study, first of all, a literature review was made in YOK (Council of Higher Education in Turkey), ULAKBIM (Turkish Academic Network and Information Center), and Google Scholar databases. The latest date for the researches included in this study was set as July 2013. The reviewing strategy for each organizational variable is explained below;

- In order to reach correlational studies about educational leadership and organizational variables, the term leadership was taken with the following terms and the scanning process was performed on keyword, title and abstract fields: job satisfaction (professional satisfaction and job satisfaction), organizational justice (justice), organizational citizenship (citizenship), organizational commitment (commitment, organizational dedication, dedication), organizational trust (trust, confidence), performance (teacher performance), organizational culture (culture, organizational culture, school culture), organizational climate (climate, organizational climate, school climate). Many strategies were used to determine the studies that are appropriate for meta–analysis. First of all a study pool was formed by putting all researches related to leadership and organizational variables, which were obtained from the scanning process (job satisfaction = 27; organizational justice = 17; organizational citizenship = 16; organizational commitment = 37; organizational trust = 11; performance = 9; organizational culture = 8; organizational climate = 19).

- Afterwards, research summaries were reviewed. A total of 67 studies have been excluded considering the inclusion criteria outlined below. Descriptive statistics of the study are presented in table 1. The inclusion criteria are as below:
### Table 1

Features of the Studies Included in the Meta–analysis

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</tr>
</tbody>
</table>
It should be conducted between the years 2000–2013,

It should contain statistical information required for correlational meta–analysis

It should measure educational leadership

The sample should be within the borders of Turkey

The sample should consist of teachers

Papers should be published in refereed journals

The reasons of excluding from the meta–analysis are as below:

Lack of quantitative data

Lack of correlation

Lack of mentioning school administrator’s leadership

Using the same data set in another study

**Coding and Reliability**

The coding process is basically a data extraction process, picking clear and appropriate data from the pile of complex information. In this context, an encoding form has been created before proceeding to the analysis and coding was performed in accordance with this form. The objective here was to develop a particular coding system, which is generic to be able to see all the researches together and specific so that the characteristics of even a single study would not be missed. To ensure the reliability of coding process, the coding was performed by two researchers and Cohen’s Kappa reliability coefficient was calculated as .94. The coding form developed within the study was consisted of the followings:

- Research bibliography
- Sample information
- Data collection tool(s)
- Information about methodology
- Quantitative data ($r/R^2$ and $n$ scores)
Analyses of Effect Sizes

The effect size acquired in the meta-analysis is a standard measure value used to determine the strength and direction of the relationship in the study (Borenstein, Hedges, Higgins, & Rothstein, 2009). Pearson’s Correlation Coefficient ($r$) was determined to be the effect size in this study. The correlation coefficient is between $+1$ and $-1$, and this $r$-value is converted into the value stated in table $z$ (Hedges & Olkin, 1985). Provided that more than one correlation value is given between the same structure categories in correlational meta-analysis studies, two different approaches are used to determine which to use in the meta-analysis (Borenstein, Hedges, Higgins, & Rothsteini, 2009; Kulinskaya, Morgenthaler, & Staudte, 2008). In this study, (i) all concerned correlations were included in the analysis and accepted as independent studies if all correlations are independent (for example, if the same people gave different samples in a study) and (ii) the average of the correlations is used when dependent correlations are given (for example, if the values that are between the sub-dimensions of transformational leadership and student achievement or between the items falling under the same category with the leadership were given). There are a variety of methods to correct these average correlations; however, most of these methods can result in high correlation estimations (Schyns & Schilling, 2013). In this study, a conservative estimation was used as the average correlation, which creates a conservative estimation of the entire correlation.

- There are two main models in meta-analysis: the fixed effects model and the random effects model. To determine which model to use, whether the model’s prerequisites were met by the characteristics of the research studies included in the meta-analysis were considered (Borenstein, Hedges, Higgins, & Rothstein, 2009; Hedges & Olkin, 1985; Kulinskaya, Morgenthaler, & Staudte, 2008; Littel, Corcoran, & Pillai, 2008; Wampold, Ahn, & Kim, 2000). The fixed effects model covers (i) the assumption that the research is the same in terms of functionality, and the objective is to estimate the effect size for only one population defined. If it is believed that the research is not equal in terms of functionality, and if generalizations through the estimated effect size are to be made for greater populations, then the model that should be used is the random effects model. When all conditions were taken into consideration, the random effects model was applied in the meta-analysis processes in this study. A comprehensive meta-analysis program was used in the meta-analysis processes.

Assessment of Publication Bias

Publication bias is based on the assumption that research on a definite subject is not published completely. Because research with no statistically significant relationships or with low relationships is not considered valuable enough to be published, the total effect size is affected in a negative way, and the average effect size increases
non-objectivity (Borenstein et al., 2009; Hanrahan, Field, Jones, & Davey, 2013; Kulinskaya, Morgenthaler, & Staudte, 2008). The effect of such publication bias, which can also be called lost data, affects the overall research investigation of meta-analysis studies in a negative way. In this sense, publication bias was considered in meta-analysis studies. For this study, the following questions were asked to analyze publication bias:

For checking the publication bias the following questions were answered:

- Is there any evidence of publication bias?
- Is it possible that the size of overall effect may be the result publication bias?
- What is the proportion of the effect, which is based on publication bias, to overall?

In the figures, no evidence of publication bias–dependent effects was observed.

Figure 1. Effect size funnel on publication bias.
for the researches included in the study. In case of publication bias, funnel plot is expected to be seriously asymmetric. If the line showing the average effect size of the researches, particularly the ones which are concentrated at the bottom of the funnel, is concentrated on one side of the line (especially at the right side), it indicates the possibility of publication bias. In this study, no evidence of publication bias was observed in the data that are included in meta-analysis.

Although no publication bias was observed in funnel plot, the results of Duval and Tweedie’s trim and fill test, which is applied to determine the effect size related to the publication bias acquired with the meta-analysis using the random effect model, are given in Table 2. As shown in Table 2, there is no difference between the effect observed and the artificial effect size created to fix the effect of the publication bias. The research on each side of the center line is symmetrical, which is the indicator of non-difference. Because there is no evidence indicating lost data at on either side of the centerline, the difference between the fixed effect size and the observed effect size is zero.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Excluding Study (right)</th>
<th>Point estimate</th>
<th>CI (Confidence Interval)</th>
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<td>.65</td>
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<tr>
<td>Observed values</td>
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<td>Adjustment values</td>
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<tr>
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<td>Adjustment values</td>
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<tr>
<td><strong>Performance</strong></td>
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<td>.62</td>
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<tr>
<td>Adjustment values</td>
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</table>

The review of the table shows that there is no difference between observed effect size and virtual effect size, which has been created to adjust the possible effect
occurred due to publication bias. The reason of this lack of difference is the researches that are concentrated on both sides of the central line are symmetric. Since there is no indication of data loss on the left and right sides of the central line, the difference between virtual effect size and observed effect size is zero.

**Findings**

The outcomes of the meta–analysis about educational leadership and organizational variables are shown in Table 3. Within the study, 79 correlational data were used and a total sample of 37.611 people was reached in order to determine the effect size of educational leadership on organizational variables. The findings supported

H1 hypothesis, where a positive relationship between educational leadership and job satisfaction was implied. The effect size of educational leadership on job satisfaction was calculated as .56. When this figure has been evaluated in terms of effect size, it shows that educational leadership has a *large effect* (Cohen, 1988; Thalheimer & Cook, 2002) on teachers’ job satisfaction.

The findings of the study supported H2 hypothesis, where a positive relationship between educational leadership and organizational justice was implied. The effect size of educational leadership on organizational justice was calculated as .75. This figure shows that educational leadership has *very large* effect on teachers’ organizational justice perception. The findings of the study supported H3 hypothesis, where a positive relationship between educational leadership and organizational citizenship was implied. The effect size of educational leadership on organizational citizenship was calculated as .35. This figure shows that educational leadership has *medium* effect on teachers’ organizational citizenship perception.

The findings supported H4 hypothesis, where a positive relationship between educational leadership and organizational commitment was implied. The effect size of educational leadership on organizational commitment was calculated as .43. This figure shows that educational leadership has *large* effect on teachers’ organizational commitment. Another finding supported H5 hypothesis, where a positive relationship between educational leadership and organizational trust was implied. The effect size of educational leadership on organizational trust was calculated as .73. This figure shows that educational leadership has *very large* effect on organizational trust.

H6 hypothesis, where a positive relationship between educational leadership and teachers’ performance was implied, was supported. The effect size of educational leadership on teachers’ performance was calculated as .36. This figure shows that educational leadership has *medium* effect on teachers’ performance. Similarly, H7 hypothesis, where a positive relationship between educational leadership and
organizational culture was implied, was also supported. The effect size of educational leadership on organizational culture was calculated as .56. This figure shows that educational leadership has large effect on organizational culture. In addition, H8 hypothesis, where a positive relationship between educational leadership and organizational climate was implied, was supported. The effect size of educational leadership on organizational climate was calculated as .50. This figure shows that educational leadership has large effect on organizational climate.

The findings of the study showed that educational leadership has large positive effects on job satisfaction \( r = 0.56 \), organizational justice \( r = 0.75 \), organizational commitment \( r = 0.43 \), organizational trust \( r = 0.73 \), organizational culture \( r = 0.56 \) and organizational climate \( r = 0.50 \), whereas it has medium positive effects on organizational citizenship \( r = 0.35 \) and performance \( r = 0.36 \). The highest effect of educational leadership is observed to be on organizational justice, whereas its lowest effect is on performance. It should be noted that the calculated confidence interval is narrow for all organizational variables included in the meta-analysis.

<table>
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<td>0.77</td>
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<td><strong>37,611</strong></td>
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**Discussion**

In this meta-analysis study the correlation values obtained from the researches, where the relationships between educational leadership and organizational variables have been examined, were analyzed quantitatively. The narrow confidence intervals demonstrated that the results of the researches included in this study are reliable. This finding can be considered to be important, in terms of being able to make more reliable decisions about the direction and strength of the relationships obtained through meta-analysis. The discussions about the effect of educational leadership on each organizational variable are given below under separate titles.
Discussion about Findings between Educational Leadership and Job Satisfaction

The results of the meta–analysis showed that educational leadership has large positive effect on teachers’ job satisfaction. This result was expected, because in the literature it is frequently mentioned that managerial behaviors affect job satisfaction of the employees (Bass & Avolio, 1989; Bogler, 2001; English, 2011; Griffith, 2004; McDaniel & Wolf 1992; Zigrang, 2000). For example, the relationship of the employees with the administrator is one of the hygienic factors of dual factor theory developed by Herzberg (Herzberg, Mausner, & Snyderman, 1959), according to which the lack of hygienic factors (wage, job security, work conditions, administrator’s behavior, etc.) affects job satisfaction negatively (Tosi, Rizzo, & Carroll, 1990). Similarly, it is noted that the level of self–confidence in Maslow’s hierarchy of needs is directly associated with the attitude of the administrators (Spector, 1996). This finding shows that one of the best predictors of high job satisfaction, which means having positive attitude towards work, loving the job, or meeting the job expectations at the high level (Locke, 1976; Luthans, 1992; Wray, Luft, & Highland, 1996), is the behaviors of the leader. This finding is also supported by the literature. For example, another meta–analysis conducted using the data obtained from the researches done in the schools at America and Taiwan revealed that leadership behaviors of school administrators affect job satisfaction largely and positively (Meng & Chin, 2007).

The identified large, positive relationship can be interpreted in two ways: First, leaders’ positive attitude towards the employees, caring the employees, supporting the employees and effective problem solving allow the employees to be more successful in their jobs, therefore, it causes them to gain more satisfaction (Avolio, Bass, & Jung 1999; Erez, 1987). Second, leaders become role models for their followers and motivate them. In this case, employees cannot resist their leaders and they voluntarily continue on the road opened by the leader and they get happier (Bass, 2000; Hawkins, 2011; Yukl, 2008). Moreover, in Turkish education system, which is quite bureaucratic, the teachers are likely to show a more positive attitude towards leader administrators who attempt to transform the school. Such a leadership contains the behaviors where followers are carefully listened and considered, their personal needs and interest are taken into account, meaning that a supportive atmosphere is created in the organization (Burns, 1978; Bass, 1985, 1999; Bass & Riggio, 2006; Leithwood, 1992; Yukl, 1999).

Discussion about Findings between Educational Leadership and Organizational Justice

In this study, meta–analysis results showed that educational leadership has large positive effect on teachers’ organizational justice perception. This result is also supported by Adams’ (1965) idea claiming that the attitude and behaviors of the leaders or administrators are the determinant of the employees’ organizational
justice perception, as well as the results of other researchers reported in the literature (Eberlein & Tatum, 2008; Cremer, Dijke, & Bos, 2007; Hoy & Tarter, 2004; Kale, 2013; Pillai, Scandura, & Williams, 1999).

In the study, the highest effect of educational leadership on organizational variables (job satisfaction, organizational citizenship, organizational commitment, organizational trust, performance, organizational culture and organizational climate) was found to occur on organizational justice. It should be considered that organizational justice is the perception of equity among employees about the distribution of important components such as tasks, services, fees (Folger & Cropanzano, 1998), and school leader is in charge and responsible for performing this distribution in a fair manner, thus these two facts are the most important factors for achieving this result. Leadership behaviors of someone, who has such duties and responsibilities, affect the perception of organizational justice (Burns & DiPaola, 2013; Engelbrecht, Aswegen, & Theron, 2004; Gefen, Ragowsky, & Riding, 2008; Greenberg, 1990; McCan & Holt, 2008; Pillai, Scandura, & Williams, 1999). Also, the sense of justice that employees perceive from their organization is a determinant of the attitude towards their work (Greenberg, 1987).

The findings showed that the behavior of school administrators was effective in the formation of a justice atmosphere within the school. The findings show that school administrator’ attitudes and behaviors in all areas, such as the organization, distribution, supervision and assessment of in–school activities (except curriculum and instruction) shape teachers’ justice perception (Gefen, Ragowsky, & Riding, 2008; Greenberg, 1990; Hoy & Tarter, 2004; Kale, 2013, Pillai, Scandura, & Williams, 1999); in addition fairness level of administrators’ decisions affect all stakeholders of the school (Burns & DiPaola, 2013).

**Discussion about Findings between Educational Leadership and Organizational Citizenship**

The results of the study showed that educational leadership has medium positive impact on organizational citizenship perception of the teachers. Since leadership was thought to affect the perception of organizational citizenship positively (Roberson & Strickland, 2010), this medium effect was also expected (although its size was not exactly as expected). This finding shows that the concept of organizational citizenship, which means for an employee to go beyond formal obligations determined by the organization, to do more than what is requested on a completely voluntary basis (Baron, 2000; Bateman & Organ, 1983; Organ, 1988), is affected from leadership behavior; but this variable is also shaped by other variables, such as the nature of the work, socio–economic opportunities, and individual characteristics (Greenberg & Baron, 2000). It should be noted that individual and environmental factors are also
important for the employees to feel themselves as a citizen of the organization, as well as the administrator’s leadership behaviors.

For a long time, researchers are interested about how leadership behaviors of the administrators affect employees’ attitude and behavior toward the work (Roberson & Strickland, 2010). Previous researches showed that leadership behaviors are effective on employees in terms of giving a meaning to their work (Greenberg & Baron, 2000; Roberson & Strickland, 2010; Strickland, Babcock, Gomes, Larson, Muh, & Secarea, 2007). If the employees see their work as meaningful, they develop positive attitude and behaviors towards the organization and they contribute more to its success. Organizational citizenship concept, which is another nomenclature of these positive attitude and behaviors in the literature, is the perceptions that allow the organization to work more efficiently and effectively (Organ, 1988). In this context, the positive effect of educational leadership on teachers’ perceptions of organizational citizenship, which was achieved in the study, has also been revealed by other researchers (Appelbaum, Bartolomucci, Beaumier, Boulanger, Corrigan, Dore, Girard, & Serroni, 2004; Bateman & Organ, 1983; Organ, 1988; Strickland, Babcock, Gomes, Larson, Muh, & Secarea, 2007; Shin, 2012; Walumbva, Wu, & Orwa, 2008).

The findings showed that the behaviors of school administrators were effective on the teachers to see themselves as a citizen of the school. Enhancing teachers’ organizational citizenship perception by defining the behavior of modern leadership, that teachers – who play the most significant role in developing educational objectives – need, is important (Greenleaf, 2002; Nichols, 2011).

Discussion about Findings between Educational Leadership and Organizational Commitment

The meta–analysis results obtained from the study showed that educational leadership has large positive impact on organizational commitment perception of the teachers. This finding is in line with the views that the organizational commitment perception, which is related to the employees seeing themselves as a permanent member of the organization and showing the attitudes that integrate them with the organization, is affected by leadership behaviors (Meyer & Allen, 1991; Mowday, Porter, & Steers, 1982; Wiener, 1982) and the results of many studies also imply large positive effect of educational leadership on organizational commitment (Avolio, Zhu, Koh, & Bhatia, 2004; Dunn, Dastoor, & Sims, 2012; Howell & Hall–Merenda, 1999; Hulpia, Devos, & Keer, 2011; Jackson, Meyer, & Wang, 2013; Kirkpatrick & Locke, 1996; Khasawneh, Omari, & Abu–Tineh, 2012; Leithwood & Sun, 2012; Lok & Crawford, 2004; Thamrin, 2012). One of the important findings of this study is the direction and strength of the effect of educational leadership on organizational commitment. In most of the studies that are included in meta–analysis, the relationship
between educational leadership and commitment are at different levels; even in some studies there is very low level or statistically insignificant relationships. However, when these researches are merged and an overall effect has appeared, it was revealed that educational leadership has a positive and large effect on organizational commitment.

Within the study, it was found that leadership behaviors of school administrators highly affect organizational commitment of the teachers. This finding is important in terms of showing that organizational commitment perception, which is believed to play a crucial and significant role on the organizational effectiveness of the teachers, is affected by leadership behaviors of the administrators (Dee, Henkin, & Singleton, 2006; Leithwood & Sun, 2012). This study contains findings that are in line with the researches arguing that educational leadership, as an organizational factor, has an effect on teachers’ organizational commitment (Hoy, Tarter, & Bliss, 1990; Koh, Steers, & Terborg, 1995; Nguni, Sleegers, & Denessen, 2006). Considering the importance of identifying the determinants and predictors of teachers’ organizational commitment, this finding of the study showed that leadership styles of school administrators are among these determinants and predictors; it also brings up the need for qualitative researches to understand the determinative and predictive effect of school administrators’ leadership behaviors in Turkey.

Discussion about Findings between Educational Leadership and Organizational Trust

The results of the meta–analysis showed that educational leadership has very large positive impact on organizational trust perception. This finding show that teachers’ organizational trust, which is related to the trust towards all kind of practice and policy of the institution that they work (Lewick, McAllester, & Bles, 1998) and the assumption that it is honest and reliable in all its activities, is highly affected from the leadership behaviors of administrators and the obtained results are supported by the literature as well (Joseph & Winston, 2005; Lawall & Oguntuashe, 2012; Lewick, McAllester, & Bles, 1998; Podsakoff, MacKenzie, & Bommer, 1996; Top, Tarcan, Tekingündüz, & Hikmet, 2013; Velez & Strom, 2012).

Organizational trust is a whole entity, formed by the trust of the employees towards administrators and organization (Nyhan & Marlowe, 1997; Podsakoff, MacKenzie & Bommer, 1996; Velez & Strom, 2012). Organizational trust is; (i) a factor that deeply affects the relationship between leader and employee and organizational success (Lewick, McAllester, & Bles, 1998), (ii) a very important factor in the organization’s long–term stability and the success of its members (Cook & Wall, 1980), (iii) it plays an important role in the success of human resources activities (Whitney, 1994) and (iv) it is a factor that enhances learning and innovation in the organization, enabling communication (Dodgson, 1993). When these factors are considered together, it is understood that trust is very important in achieving organizational goals (Joseph &
Discussion about Findings between Educational Leadership and Organizational Culture

The results of the study showed that educational leadership has large positive impact on organizational culture. The obtained results are also supported by relevant literature (Hoy & Miskel, 2010; Karadağ, 2009; Klatt & Hiebert, 2001). This finding shows that the concept of organizational culture, which is related to the values and beliefs that distinguish the organization of the employee form other organizations, is highly affected from leadership behaviors of the administrators (Bolman & Deal, 2008; Peters & Waterman, 1995; Schein, 1992). This finding is also in line with the result of previous studies (Flores, 2004; Giritli, Yazıcı, Oraz, & Acar, 2013; Knutson, Miranda & Washell, 2005; Tsui, Zhang, Wang, Xin, & Wu, 2006).

Organizational culture is one of the critical components that increase employees’ achievement and success within the organization (Balthazard, Cooke, & Potter, 2006; Frontiera, 2010). The attitude and behaviors of the administrators is one of the major components of the culture (Bolman & Deal, 2008; Hoy & Miskel, 2010; Klatt & Hiebert, 2001; Peters & Waterman, 1995; Schein, 1992). In this context, in order to create shared objectives and the impact required to reach these objectives, the task of school principals is to run all connections in accordance with big or small movements (Karadağ, 2009). School principal, contributes to the formation of a positive culture within the school by developing positive leadership behaviors. This study merged the results of many studies that were conducted at different institutions, where the data were obtained from leadership behavior of different school administrators and showed that positive leadership behaviors of school principals largely affect the perceived school culture. The finding of the study is important in terms of making a contribution to the debate “whether the leader affect the culture or the culture affects the leader?”. In addition the finding of the study overlaps with the results of the studies, which explain the relationship between leadership types and organizational culture, reporting that transformative (Avolio & Bass, 1985, 2002), protective (Trice & Beyer, 1993), visionary and charismatic (Davis, 1984; Schein, 1992; Trice & Beyer, 1993) leadership plays an important role on organizational culture.
Discussion about Findings between Educational Leadership and Organizational Climate

The results of the study showed that educational leadership has large positive impact on organizational climate. This finding is in line with the views arguing that organizational climate, which can be defined as the sum of the characteristics which are related to overall feelings and atmosphere of the organization, which distinguish the organization from the others and which affect the human behaviors within the organization (Hoy, Tarter, & Kottkamp, 1991; Hoy & Miskel, 2010), is affected from the leadership behaviors of the administrators (Black, 2007; Kelley, Thornton, & Daugherty, 2005; Koene, Vogelaar, & Soeters, 2002; Tajasom & Ahmad, 2011; Varner, 2007; Wang & Rode, 2010).

A positive climate in the school, improves teachers’ performance, supports their morale and provides improvement on student achievement (Bulach, Malon, & Castleman, 1995; Freiberg, 1998; Hoy, Tarter, & Bliss, 1990). Heck (2000) and Goddard, Hoy, and Hoy (2000) have argued that there is a serious correlation between students’ achievement and school climate. In this context, one of the essential components of a successful teaching program is the school climate. An orderly and functional school or a high level of academic achievement cannot even be a matter of discussion without a positive climate (Hoyle, English, & Steffy, 1985). The finding of the study is important in terms of showing the large effect of school principals’ leadership behaviors on the formation of school climate, which has so significant impacts on the success of the school. This finding overlaps with the results of previous studies (Black, 2007; Bossert, Dwyer, Rowan, & Lee, 1982; Hallinger, & Murphy, 1987; Kelley, Thornton, & Daugherty, 2005; Sergiovanni & Starrat, 1998; Tajasom & Ahmad, 2011; Varner, 2007; Wang & Rode, 2010).

Discussion about Findings between Educational Leadership and Performance

The results of the study showed that educational leadership has medium positive impact on teachers’ performance. The positive effect achieved on the study is supported by the literature (Friedkin & Slater, 1994; Imran, Zahoor, & Zaheer, 2012; Ishikawa, 2012; Jung, Moon, & Hahm, 2008; Lowe, Kroock, & Sivasubramaniam, 1996; Rowold, 2011; Wang, Oh, Courtright, & Colbert, 2011). This finding shows that the concept of performance, which is related to the contribution of the employee to the objectives of the organization, is affected by the leadership behaviors of the administrators.

Performance perception is a psychological need at the individual level, whereas at organizational level it is a need towards motivation. Perception studies show employees their existing shortcomings; guide the employees to renew them and lead to new breakthroughs. The improvement of the people’s individual performance also contributes to increase the efficiency of the institution as a whole (Bass, 1985). The
positive effects of school administrators’ leadership behavior on each organizational variable, indirectly predict the performance. This is because the theoretical structure of each organizational variable discusses its contribution to the employee’s performance (Bass, 1985; Curral & Epstein, 2003; Greenberg, 1987, 1990; Hoy & Miskel, 2010; Karadağ, Çiftçi, & Bektaş, 2015; Meyer & Allen, 1991; Organ, 1988; Spector, 1996). In this context, this study is an important reference in evaluating the performance of teachers in terms of included variables and achieved results. This is important in terms of showing the effect of school administrators’ leadership behaviors, which is one of the factors affecting the performances of the teachers who are the fundamental component of a phenomenon that is related to economic, political, sociological areas of the country.

Within the scope of the study, data obtained from different samples using different measurement tools were merged together and effect sizes of school administrators’ leadership behaviors on different organizational variables, which constitute the subjects of the researches in the literature, were calculated. As a result of the meta–analysis it has been found that educational leadership has large positive effects on organizational justice, organizational trust, organizational commitment, organizational culture, organizational climate, and job satisfaction, whereas it has medium positive effects on organizational citizenship and performance. Regarding the analysis conducted with the data obtained from the studies that were included in the meta–analysis, the narrow confidence intervals along with the lack of evidence implying any publication bias showed that the results of the researches included in the study are reliable. This meta–analysis study is significant in terms of describing the effect of school administrators’ leadership behaviors in Turkey on teachers and schools in a comprehensive way. In addition, it may shed light on future research in the field of educational leadership by bringing a holistic perspective to future researchers.

Limitations and Directions for Future Research

This study was performed based on the available data obtained from primary researches. Obtained data is solely based on correlational researches, which is probably the biggest disadvantage of this study. Considering that qualitative research methods may be more effective in understanding the nature of educational leadership, it is not objective to claim that the obtained results can fully explain causal effects. In addition, most of the researches related to educational leadership and organizational variables are based on correlational research method, which suggests that a potential of method bias may exist.

Despite the strategies developed to achieve the studies to be included in the meta–analysis, it wasn’t possible to reach all of them. This was basically due to two reasons. First, the full text of the researchers found in YOK Central Thesis Database cannot be reached if the permission of the author was missing. Therefore, some researches
that were thought to contain suitable data for this study could not be included. Second reason is the lack of a data base, in which academic articles in Turkey are completely indexed. Especially, the studies conducted before 2004 were not included in ULAKBİM or other databases, therefore we couldn’t reach some studies that may be suitable. Moreover, meta–analysis studies aims to achieve all researches, whether published or not. However, in this study only published studies were included in the analysis. Even though no statistical evidence of publication bias has been found, the lack of ability to reach unpublished researches shows that this situation could not be clearly detected. In addition, sample of the study only consists of the studies performed between the years 2000–2013, in Turkey, which is another limitation.

The following recommendations can be made based on the findings of the analysis performed within the study:

- Based on the positive effect of educational leadership on organizational variables, the necessary measures should be taken for school administrators to adopt constructive leadership behaviors in the realization of instructional objectives. In this regard;
  - Administrators should be educated about transformative, ethic, servant, and supportive educational leadership styles, which are found to have large positive effect on organizational variables.
  - Comprehensive in–service trainings should be provided to school administrators, in order to ensure that they will reach organizational objectives through the leadership roles that they will undertake.
  - Completing graduate education from an institution that has educational leadership in its curriculum should be set as a criterion for the assignment of the administrators.
  - Undergraduate teacher education programs should open an independent “educational and instructional leadership” course.

- Considering the number of studies included in the meta–analysis about educational leadership and organizational variables, more correlational researches should be conducted about leadership behaviors of school administrators and performance, organizational culture and organizational trust.

- Within the scope of this study that addressed the relationships between educational leadership and organizational variables, it was noticed that the correlation coefficient (r) was not reported in many researches. In this regard, researchers should report the findings that may allow the realization of meta–analysis in their researches so that the studies that they have conducted will not stand alone, as a single research finding.
The researches that are not open to access in YOK Central Thesis Database are likely to be an obstacle to the meta–analysis, thus this problem should be solved.

A data base, in which published scientific researches in Turkey are indexed, should be established.

References

Note. “*” References marked with an asterisk indicate studies included in the meta–analysis. The in–text citations to studies selected for meta–analysis are not followed by asterisks.


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