



## The effects of gender, seniority and subject matter variables on teachers' organizational citizenship behaviors in Turkey: A meta-Analysis

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### Abstract

The purpose of this paper is to determine the effect of gender, seniority and subject matter variables on teachers' organizational citizenship behaviors. In this regard, a meta-analysis was conducted on the research studies published in Turkey with regards to organizational citizenship behaviors. Specific criteria were employed in selecting the studies to be included in the meta-analysis. The criteria are as follows: the research studies published between the years 2003-2014, looked at determining organizational citizenship behaviors of primary (elementary and lower secondary) and upper secondary education school teachers; validity and reliability information of data collection tools were reported and arithmetical mean, standard deviation, sample size values were stated in the related studies. The current meta-analysis was conducted with 24 studies in total. However as not all of the studies had the same variables, the numbers of the studies included in the meta-analysis are different in terms of gender, seniority and subject matter variables. General effect size analyses were conducted with 24 studies for gender variable, 21 for seniority, and 10 for subject matter. The total sample size of the studies included in the research study for overall organizational citizenship behaviors is 11,374 in terms of gender, 10,619 in terms of seniority, and 4,250 in terms of the subject matter. Random Effects Model was used for calculating the effect size in meta- analysis studies. Among the examined personal variables, seniority (ES=-0.121) had the highest effect on the organizational citizenship behaviors of teachers, followed by subject matter (ES=0.116) and gender (ES=0.015). In terms of general organizational citizenship behavior, female teachers are exhibiting much more citizenship behavior than male teachers, teachers with 11 years and more seniority than teachers with 10 years and less seniority, and primary school teachers than subject matter teachers.

### Keywords

Organizational citizenship  
Meta-analysis  
Gender  
Seniority  
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## Introduction

Quantitative studies are considered as research studies conducted to obtain valid, reliable, and generalizable results. Quantitative studies attempt to describe obtained results if it was possible to reach the whole population, or if not, to make inferences about the population through samples. Inferential statistics used in these extrapolations to forecast parameters with the help of sample values. Repeated with different samples, such studies contribute to the generalizability of the obtained findings, which is important for quantitative research studies. These studies take into consideration various independent variables that may have an impact on the dependent variable, and analysis is conducted accordingly. Nonetheless, it is not easy to obtain similar results in the studies, which makes it difficult to access generalizable information. Owing to the complicated nature of human behavior, which defies any straight forward explanation, the situation is more difficult for social and educational sciences, as there are many threats to the internal validity of such studies (Üstün & Eryılmaz, 2014). Besides, a single experiment or research study rarely has sufficiently precise or accurate results. Therefore, it is imperative to synthesize and integrate studies recounting similar research results regarding specific subject matter. Meta-analysis studies compile the findings from various independent pieces of research. McMillan and Schumacher (2001) define meta-analysis as a method to statistically integrate the results from independent studies; that is, the integration of findings from previous research studies. Based on dealing with various findings from quantitative research studies conducted on a certain subject in a certain area of study, meta-analysis studies bring a new, enhanced perspective to that area and contribute to the creation of new models and theories (Erkuş, 2009). Thus, they summarize the results of relevant studies (Creswell, 2014).

In this regard, meta-analysis methods allow for the synthesis of research literature (Köklü, 1998). Although meta-analysis studies provide a general overview by integrating the results from relevant research studies on a specific subject, there are few meta-analysis studies conducted in Turkey. When “meta-analysis” is used as a keyword search in Turkey’s Higher Education Council’s Thesis Database, a total of just 57 meta-analytic theses are found, a mere 21 of which are related to education. Despite the significant increase in meta-analysis studies in 2013-2014, the number of theses and dissertations is still somewhat limited. Theses and dissertations generally examine studies conducted on the impact of a specific teaching method. Similarly, few meta-analysis studies can be found upon searching in the TÜBİTAK ULAKBİM’s National Academic Network and Information Centre. Articles in Turkey specifically focus on science and mathematics education (Üstün, 2012), teaching methods and techniques (Tomakin & Yeşilyurt, 2013), and education management (Aydın, Sarier, & Uysal, 2011). Studies focused on education management have examined leadership (Aydın, Sarier, & Uysal, 2013; Çoğaltay, 2014; Kış, 2013; Sarier, 2013), burnout (Doğuyurt, 2013), organizational commitment (Aydın, Sarier, & Uysal, 2011), organizational justice (Altınkurt, Yılmaz, & Karaman, 2015) and in-service training (Özcan & Bakioğlu, 2010). However, there has been no meta-analysis study on organizational citizenship within educational organizations.

Organizational citizenship behavior is a subject often studied in the area of organizational behavior, the theoretical basis of which was established by Dennis Organ and colleagues (Bateman & Organ, 1983; Organ & Konovsky, 1989; Organ & Lingl, 1995; Organ & Ryan, 1995; Smith, Organ, & Near, 1983). According to Organ (1988), organizational citizenship behaviors are employees’ discretionary personal behaviors that are not explicitly dealt with by the official reward system of an organization, yet support the active operation of the organization. Organizational citizenship behaviors include such behaviors as the helping of fellow colleagues, not creating problems when given orders, not moaning about tasks assigned in addition to any normal routine, paying attention to the cleanliness and tidiness of physical spaces, talking positively about one’s organization to other people, trying to establish a healthy and warm atmosphere, and using organizational resources in an efficient manner (Bateman & Organ, 1983). In this regard, organizational citizenship behaviors are discretionary; behaviors that is not rewarded by an official reward system, directly or explicitly, but contributes to the efficient operation of the organization in total (Organ, 1988). This means that

organizational citizenship behaviors are extra-role behaviors shown by employees, which are not included in the terms of references or employment contract, and the performance of which is not expected by management. Extra-role behaviors include benevolence, volunteer behaviors and common actions that improve and facilitate organizational efficiency (Altınkurt & Yılmaz, 2012). Failure to perform such behaviors does not lead to a penalty for employees, yet is beneficial for the organization (Yılmaz, 2010).

Organ (1988) examined the organizational citizenship behaviors under five sub-dimensions, including basic characteristic features, namely conscientiousness, altruism, sportsmanship, courtesy and civic virtue. Conscientiousness, in this sense, means workers being volunteer enough in performing the least expected behaviors. Altruism is the entire explicit or implicit volunteer helping behaviors by workers to their colleagues. Sportsmanship is avoiding the behaviors which are to cause stress among the workers in the organization. Courtesy means workers being in communication with their colleagues they interact in order to prevent any problems by their decisions or moves beforehand. Civic virtue is workers being committed to the organization as a whole (Organ, 1988). Besides such dimensioning of organizational citizenship behaviors, this behavior has the tendency to be evaluated as a whole in the studies conducted recently.

There are many meta- analysis studies (Ilies, Nahrgang, & Morgeson, 2007; Lepine, Erez, & Johnson, 2002; Organ & Ryan, 1995; Podsakoff, Whiting, Podsakoff, & Blume, 2009) and meta-evaluation studies (Podsakoff, MacKenzie, Paine, & Bachrach, 2000) conducted overseas about organizational citizenship behavior. According to the meta-analysis study conducted by Organ and Ryan (1995), there is not significant relation between organizational citizenship behaviors and such variables as age ( $ES=0.038$ ) or gender ( $ES=0.040$ ). The same study concludes that there is a significant relation between organizational citizenship behavior and job satisfaction. Findings of the research by Lepine, Erez and Johnson (2002), show that there are significant and strong relations among the sub-dimensions of organizational citizenship behavior. There are also important relations between these dimensions and such variables as job satisfaction, organizational participation, impartiality, honesty and leadership support. Podsakoff et al. (2000) examined all organizational citizenship behavior studies that had been conducted up to that point in time. Their study classifies the premises of organizational citizenship behaviors under four groups: personal characteristics, task characteristics, organizational characteristics, and leadership behaviors.

No meta-analysis study has been performed in Turkey focusing directly on organizational citizenship behaviors. Nonetheless, the meta-analysis study by Alpkan, Dilek and Bozlağan (2005) aimed at examining the impact of such interim variables as justice perception and trust on the relation between leadership style and organizational commitment, job satisfaction and organizational citizenship behavior. The study found that there were relations among leadership styles, organizational justice perceptions, perceptions of trust, organizational citizenship behavior, organizational commitment, and job satisfaction variables.

Studies in Turkey or overseas generally focus on studies implemented in non-educational organizations. However, recently, there are several studies conducted on organizational citizenship behaviors of employees in educational organizations. Meta-analysis of organizational citizenship behavior researches in educational organizations is imperative both in terms of summarizing the situation in educational organizations and giving the opportunity to compare with meta-analyses conducted in other organizations. Besides, it has not been possible to find any meta-analysis study, except for that of Organ and Ryan (1995), aimed at determining the effect of personal variables such as gender on organizational citizenship behaviors. In this context, the aim of this study is to meta-analyze the studies conducted in educational organizations in Turkey about organizational citizenship behaviors, and to determine the effect of variables such as gender, seniority and subject matter on organizational citizenship behaviors. Nonetheless variables like gender, seniority and subject matter-seperately or together- are included as independent variables almost in every educational research in Turkey. Naturally, while there are statistically significant findings in some of these researches (Bulut,

2011; Kepenek, 2008), there is not statistically significant finding in the others (Aktay, 2008; Dönder, 2006). As a cumulative process, generalization of the findings obtained as a result of scientific researches is one of the most important aims of science. On the other hand, cultural factors play a principle role on workers organizational citizenship behaviors. In this respect, generalizable findings in a particular profession and culture provide the opportunity of intercultural comparison. As a result, the aim of this research is to meta-analyze the studies conducted in educational organizations in Turkey about organizational citizenship behaviors, and to determine the effect of gender, seniority and subject matter variables on organizational citizenship behaviors.

## Method

This is a meta-analysis of the studies conducted in Turkey about organizational citizenship behaviors in order to determine the effect of personal variables of gender, seniority and subject matter on the organizational citizenship behaviors of teachers.

### *Data Collection*

Research data was collected in April 2014. In order to reach the relevant studies, ULAKBİM, Higher Education Council's database, Google Academic, EBSCOhost and Web of Science databases were searched for using the keywords of "organizational citizenship" and "citizenship" in both English and Turkish. Based on the given criteria, the search resulted in 21 articles, 32 masters' theses, and four doctoral dissertations. Thirteen articles were omitted since they were reproduced from theses and dissertations already included in the current study. Thirteen articles were omitted since they were reproduced from theses and dissertations already included in the current study. In other words, theses and dissertations were included instead of the articles reproduced from these theses and dissertations. The criteria for studies included in the meta-analysis are: 1) research studies published 2003-2014; 2) studies looked at determining organizational citizenship behaviors of primary (elementary and lower secondary) and upper secondary education school teachers in Turkey; 3) validity and reliability information of data collection tools were reported; 4) research findings reported arithmetic mean and standard deviation values, or other values required for them to be calculated; 5) sample size values were reported.

Table 1 provides numbers and sample sizes of the studies included in this research study, on the basis of the given criteria. Of these studies, 24 were included in the meta-analysis in terms of the gender, 21 of seniority, and 10 of subject matter. Although 57 studies were reached at first search in terms of gender, 33 were omitted as 2 of them were not empirical researches, 1 of them didn't meet the necessary sample size and 30 of them didn't report arithmetic mean and standard deviation values, or other values required for them to be calculated. In terms of seniority, 57 studies were reached at first search. However 36 studies were omitted as 2 of them were not empirical researches, 1 of them didn't meet the necessary sample size and 33 of them didn't report arithmetic mean and standard deviation values, or other values required for them to be calculated so they were omitted. Considering subject matter variable, of the reached 57 researches 2 of them were not empirical researches, 1 of them did not meet the necessary sample size and 34 of them did not report arithmetic mean and standard deviation values, or other values required for them to be calculated so 37 research studies in total were omitted. Among the studies analyzed, there were not any studies which were not included to meta-analysis due to the absence of validity and reliability datum of the scales.

The total sample size of the studies included in the research study for overall organizational citizenship behaviors is 11,374 in terms of gender, 10,619 in terms of seniority, and 4,250 in terms of subject matter. Table 1 also provides sample sizes for each sub-dimensions of organizational citizenship.

**Table 1.** Number and Sample Size of Studies Included in the Meta-Analysis

	n	Gender		n	Seniority		n	Subject Matter	
		Female	Male		≤10 years	≥11 years		Grade	Subject
Organizational Citizenship	24	6122	5252	21	4208	6411	10	1894	2356
Conscientiousness	15	4508	3569	14	2755	5073	4	1019	1208
Sportsmanship	14	4340	3336	12	2319	4698	4	899	1276
Civic Virtue	13	4020	3108	12	2343	4573	4	899	1276
Altruism	14	4152	3348	14	2673	4950	5	1109	1263
Participation	5	911	921	5	870	924	2	369	347
Courtesy	5	1994	1382	4	823	2180	1	111	238

### *Data Analysis*

Primarily a coding key was created to determine the studies to be included in the meta-analysis, and to facilitate data analysis. Primarily a coding key was created to evaluate the studies on organizational citizenship behavior in general, determine the studies to be included in the meta-analysis, and to facilitate data analysis. The coding key included data on research number, research year, subject of the research, place of research, sample, sample size, data collection tool(s) used, developers of the data collection tool(s), whether there are validity and reliability proofs for data collection tool(s), arithmetic average and standard deviation based on gender, seniority and subject matter variables. The results were then combined through meta-analysis. The coding key was filled by each and every researcher separately and then compared. In this way, possible errors in data entry were intended to be prevented. Also a meeting was held to determine which studies to be included in the meta-analysis based on the given criteria. An expert of assessment and evaluation in education attended to the meeting apart from the researches themselves.

Fixed Effect Model is based on homogeneity assumption in the combined studies. Thus, this model accepts that each study acknowledges the same and there is no variance between the studies. In case of when the assumptions of Fixed Effect Model do not come true, Random Effects Model is used. Random Effects Model allows for an evaluation within studies as well as variations among those studies (Shelby & Vaske, 2008; Sutton, Abrams, Jones, Sheldon, & Song, 2000). Meta-analysis methods using this model include both the variance among studies and the variance within the study itself (Thompson & Sharp, 1999). Q test is used in order to evaluate whether there is homogeneity among the studies involved in meta- analysis or not. In the study,  $I^2$  value was used as another criteria concerning heterogeneity.  $I^2$  gives the proportion of the total variance concerning effect size and is not affected by the number of studies, in contrast to Q statistics.  $I^2$  value being 25% was commented as low level of heterogeneity, being 50% as middle, and being 75% as high level of heterogeneity (Cooper, Hedges, & Valentine, 2009).

Q test is used to examine to see if two or more independent samples are selected from the same population (Cochrane, 1954 cited in Erdoğan & Kanık, 2011). Q statistics test for null hypothesis, which claims that all studies share a common effect size, through Chi-square distribution (Borenstein, Hedges, Higgins, & Rothstein, 2013). In the analysis, null hypothesis is based on the assumption that samples are selected from the same population. This means that if the calculated  $X^2$  (Q) value is smaller than the  $X^2_{table}$  value selected on the basis of degree of freedom and significance level,  $H_0$  hypothesis shall be accepted and homogeneity condition ensured. However, it is not decided by just considering Q test when selecting the appropriate model. Borenstein et al. (2013) suggest to benefit from Random Effects Model in the situations where the studies to be included in meta-analysis are chosen from published ones. That's why; Q test was conducted but the effect sizes were calculated by considering Random Effects Model.

Arithmetic average and standard deviation for gender, seniority and subject matter dimensions were used to calculate the effect size. Comprehensive Meta-Analysis Version 2 software was used in performing the meta-analysis. Possibility of publication bias in the study was examined according to cone graphics and Orwin's Fail-Safe N test. In case of no publication bias, the effect size of the studies is distributed in the framework of general effect size in cone graphic because of the fact that sampling error is incidental (Borenstein et al., 2013). In case of publication bias, the distribution of effect sizes of the studies are expected to be asymmetrical (Üstün & Eryılmaz, 2014). The effect of moderator variables is identified with Q test. Moderators of study are independent variables which are thought to have a possible effect on the study and which are used in meta-analysis to determine the level of this effect (Card, 2012). The effect of publication type (article, thesis) and school type as moderator variables has been examined. Hedges's *g* value was used in the effect size calculations. All calculations regarding the effect size accepts a 95% confidence level. It is generally suggested that an absolute value of 0.20 or less for the effect size means a weak impact, whereas an absolute value between 0.21-0.80 means a medium effect and an absolute value of 0.81 or more means a strong effect (Cohen, Manion, & Morrison, 2007; Cohen, Welkowitz, & Ewen, 2000). This study took these criteria as a basis, yet considered an effect size value less than 0.10 as a very weak impact.

In terms of gender variable, this study considered women as the experimental group and men as the control group. In terms of seniority variable, teachers with teaching experience of 10 years and below were the experimental group, while those with more than 10 years teaching experience were the control group. In terms of subject matter variable, classroom teachers were taken as the experimental group and subject matter teachers as the control group. In all the groups, a positive effect size showed an effect advantage for the experimental group, while a negative effect size showed an effect advantage for the control group. The included studies have different groups in terms of seniority. While some of them have the groups of 5-year-seniority groups (such as 5 years or less, 6 to 10 years) others have 10-year-seniority groups (such as 1 to 10 years). As 10-year-seniority groups cannot be resolved, seniority variable in the meta-analysis has been decided to group as 10 years seniority or less and 11 years seniority or more.

## Findings

This study primarily explained the descriptive characteristics of those studies conducted on organizational citizenship behaviors. Table 2 gives descriptive statistics of the studies conducted in Turkey on organizational citizenship behaviors. "Pre-meta-analysis" expression stated in Table 2 below contains all primary studies without considering the standards of being involved in analysis.

**Table 2.** Descriptive Statistics of Studies Conducted on Organizational Citizenship Behaviors

		Pre	Included in Meta Analysis		
		Meta Analysis (f)	Gender (f)	Seniority (f)	Subject Matter (f)
Type of Study	Article	21	8	5	2
	Masters' Thesis	32	14	14	8
	Doctoral Dissertation	4	2	2	0
Year of Study	2003	1	0	0	0
	2004	1	0	0	0
	2005	3	0	0	0
	2006	4	2	1	1
	2007	5	2	2	1
	2008	7	2	2	1
	2009	6	3	3	1
	2010	4	3	2	1
	2011	13	8	7	4
	2012	7	3	3	1
	2013	5	1	1	0
	2014	1	0	0	0
	School Type	Primary	38	16	13
Upper secondary		9	2	2	0
Primary and upper secondary		8	6	6	2
Data Collection Method	Quantitative	54	24	21	10
	Qualitative	0	0	0	0
	Theoretical	2	0	0	0
Geographical Region for Data Collection	Mediterranean	2	2	2	1
	Aegean	16	5	3	3
	Marmara	11	8	9	3
	Central Anatolia	15	3	3	1
	Black Sea	4	3	1	1
	Eastern Anatolia	2	1	1	1
	Southeastern Anatolia	1	0	0	0
	More than one region	4	2	2	0

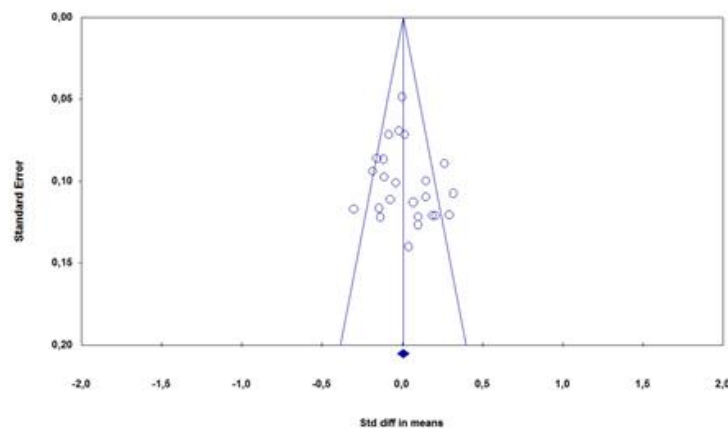
Table 2 shows that a total of 32 masters' theses (56.1%), 21 articles (36.8%), and four doctoral dissertations (7.0%), making a total of 57 studies were carried out between 2003 and 2014 in Turkey to determine the perceptions of organizational citizenship behaviors of primary and upper secondary education teachers. Most of the studies on organizational citizenship were completed in 2011. Fifty-five (96.5%) of all studies were quantitative, and two (3.5%) were theoretical studies. Of all the applied research, 38 studies collected data from primary education schools (69.1%), nine from upper secondary education schools (16.4%), and eight both from primary and upper secondary education schools (14.5%). From the perspective of venue of studies, studies were conducted in all geographical regions of Turkey. The regions with most studies were Aegean (f=16), Central Anatolia (f=15) and

Marmara ( $f=11$ ), while the regions with the least number of studies were the regions of Southeastern Anatolia ( $f=1$ ), Mediterranean ( $f=2$ ) and Eastern Anatolia ( $f=2$ ).

As to the type of studies included in meta-analysis, 16 theses/dissertation (66.7%) and 8 articles (33.3%) in terms of gender variable; 16 theses/dissertation (76.2%) and 5 articles (23.8%) in terms of seniority variable; 8 theses/dissertation (80%) and 2 articles (20%) were included in meta-analysis. The studies included in meta-analysis were generally primary school level.

#### *Effect of Gender on Organizational Citizenship Behaviors*

The first goal of this study is to determine the effect of gender on organizational citizenship behaviors. Prior to calculating of effect sizes, a funnel plot graph was used to check for the existence of publication bias. Table 1 shows the relevant funnel plot demonstrating the results of publication bias in terms of gender variable.



**Figure 1.** Funnel Plot in terms of Gender Variable

When Figure 1 is analysed, it is seen that an almost symmetric inverted funnel shape arises from the data set. Additionally, the result of Orwin's Safe N analysis indicates that no additional study in 0.01 Hedge  $g$  which is defined for general effect size is required to be added to meta-analysis. The meta-analysis was conducted on 24 studies for overall organizational citizenship behaviors, 15 studies for the dimension of conscientiousness, 14 for sportsmanship, 13 for civic virtue, 14 for altruism, and five for courtesy and volunteerism dimensions of the organizational citizenship behavior.

First and foremost, the homogeneity test was applied before calculating the effect size in the study. As a result of this,  $Q$  value: 55.96 ( $p>.05$ ) for general organizational citizenship behavior, 39.58 ( $p>.05$ ) for conscientiousness dimension, 32.41 ( $p>.05$ ) for sportsmanship, 67.37 ( $p>.05$ ) for civic virtue, 26.61 ( $p>.05$ ) for altruism, 9.58 ( $p>.05$ ) for courtesy, 21.92 ( $p>.05$ ) for volunteerism were calculated.  $I^2$  values which were other criteria of heterogeneity were calculated as 58.9% for general organizational behavior, 64.6% for conscientiousness, 59.9% for sportsmanship, 82.2% for civic virtue, 51.2% for altruism, 58.3% for courtesy, and 81.7% for volunteerism dimension. This indicates high level of heterogeneity for volunteerism and civic virtue dimensions, and middle level for others.

Figure 2 shows the forest plot for every study included. There are also assigned weights of the studies. Weight is used to defining the studies with more weight in comparison with other studies (Dinçer, 2014). The square size representing every single study in figure 2 shows the weight of the study, too. Table 3 shows the findings obtained as regards to the effect of gender on organizational citizenship behaviors.



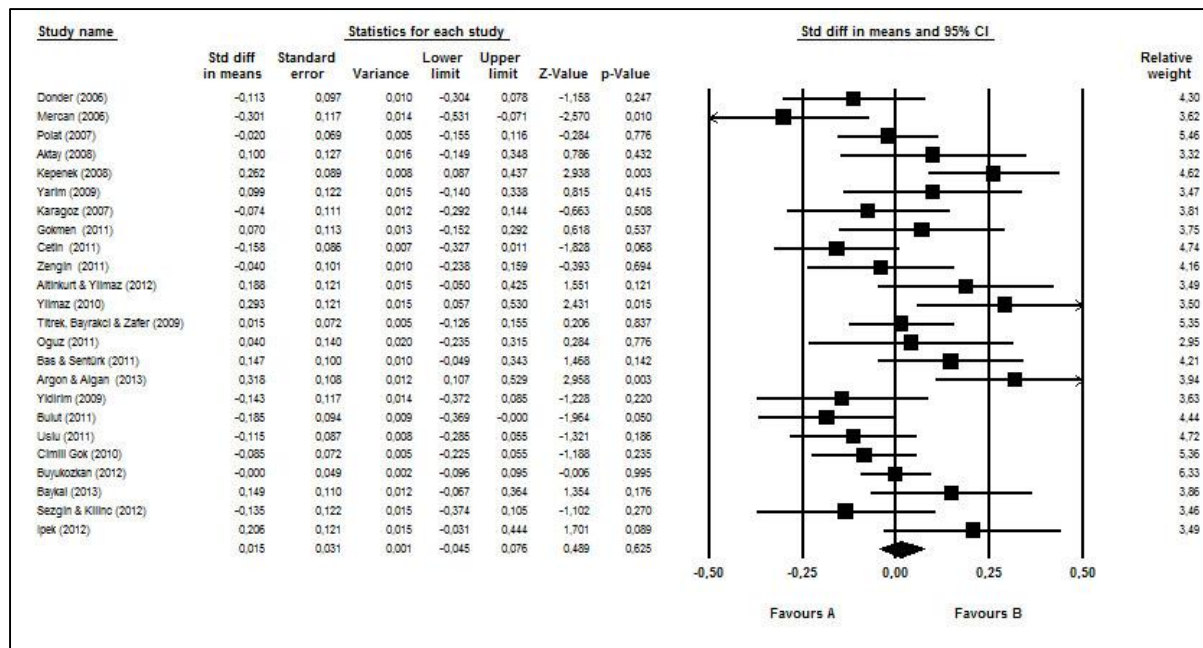


Figure 2. Forest Plot Showing the Effect of Gender on Organizational Citizenship Behavior

Table 3. Effect of Gender on Organizational Citizenship Behaviors

	ES	z	Q	I <sup>2</sup>	S <sub>error</sub>	ES <sub>low</sub>	ES <sub>up</sub>
Organizational Citizenship	0.015	0.489	55.96	58.9	0.03	-0.05	0.08
Conscientiousness	0.018	0.455	39.58	64.6	0.04	-0.06	0.09
Sportsmanship	-0.006	0.146	32.41	59.9	0.04	-0.08	0.07
Civic Virtue	-0.104	1.736	67.37	82.2	0.06	-0.22	0.01
Altruism	-0.059	1.668	26.61	51.2	0.03	-0.13	0.01
Courtesy	0.161	2.613	9.58	58.3	0.06	0.04	0.28
Volunteerism	0.003	0.023	21.92	81.7	0.11	-0.22	0.22

ES: Meaneffect size, Q: Total heterogeneity level, ES<sub>low</sub>-ES<sub>up</sub>: ESlower and upper limit at 95% confidence level

Table 3 shows that the effect size of gender was calculated as 0.015 for overall organizational citizenship behaviors, 0.018 for conscientiousness, -0.006 for sportsmanship, -0.104 for civic virtue, -0.059 for altruism, 0.161 for courtesy, and 0.003 for volunteerism. Based on these effect sizes, female teachers showed more organizational citizenship behaviors for the overall organizational citizenship behaviors, conscientiousness, courtesy and volunteerism dimensions, whereas male teachers showed more organizational citizenship behaviors for sportsmanship, civic virtue, and altruism dimensions. Calculated effect sizes showed that this effect was very weak for the overall organizational citizenship behaviors, conscientiousness, sportsmanship, altruism and volunteerism dimensions. The effect was weak for civic virtue and courtesy dimensions.

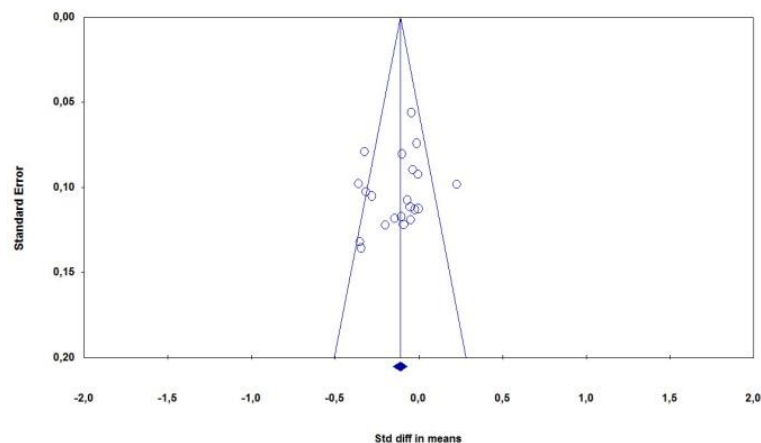
Study type and school type variables' moderator effect on effect values calculated for gender variable was analyzed. Study type moderators were divided into two groups as theses/dissertations (n=16) and articles (n=8). Effect sizes belonging to research type groups were calculated as -0.036 for studies published as theses/dissertations and 0.131 for articles. Variance among studies was statistically significant for study type moderator (Q=7.12, p<.05). Whether studies were published as articles or theses/dissertations changed the effect size concerning teachers' organizational citizenship behavior in terms of gender variable. The effect size of articles was more than theses/dissertations.

School type moderators were divided into three groups as primary school (n=15), upper secondary school (n=7), and primary and upper secondary schools (n=2). However, two studies applied in primary and upper secondary schools were not evaluated due to the low number of studies. Effect sizes belonging to school type groups were calculated as -0.015 for studies conducted in

primary schools, and 0.036 for upper secondary schools. Variance among studies was not statistically significant for school type moderator ( $Q=2.35$ ,  $p>.05$ ). Whether the studies were conducted in primary schools or upper secondary schools did not change effect size.

### *Effect of Seniority on Organizational Citizenship Behaviors*

This research study secondly examined the effect of seniority on organizational citizenship behaviors. Prior to calculating of effect sizes, a funnel plot graph was used to check for the existence of publication bias. Figure 3 shows the relevant funnel plot demonstrating the results of publication bias in terms of seniority variable.



**Figure 3.** Funnel Plot in terms of Seniority Variable

When Figure 3 is analysed, it is seen that an almost symmetric inverted funnel shape arises from the data set. Additionally, the result of Orwin's Fail Safe N indicates that 21 additional studies with zero effect are required to reduce to 0.01 Hedge  $g$ . However, the studies included in meta-analysis are all the reached studies according to criteria of including all studies towards this research question in Turkey.

So publication bias seems unlikely. The meta-analysis was conducted on 21 studies for overall organizational citizenship behaviors, 14 for the dimension of conscientiousness, 12 for sportsmanship, 12 for civic virtue, 14 for altruism, four for courtesy, and five studies for the volunteerism dimension of organizational citizenship behavior. First and foremost, the homogeneity test was applied before calculating the effect size in the study. According to this,  $Q$  value: 46.47 ( $p>.05$ ) for general organizational citizenship behavior, 51.00 ( $p>.05$ ) for conscientiousness dimension, 30.38 ( $p>.05$ ) for sportsmanship, 41.87 ( $p>.05$ ) for civic virtue, 70.37 ( $p>.05$ ) for altruism, 2.92 ( $p<.05$ ) for courtesy and 4.65 ( $p<.05$ ) for volunteerism were calculated. As a result of  $Q$  test, homogeneity condition seems to have ensured for courtesy and volunteerism dimensions of organizational citizenship behavior.  $I^2$  values were calculated as 56.9% for general organizational behavior, 74.5% for conscientiousness, 63.8% for sportsmanship, 73.7% for civic virtue, 81.5% for altruism, 0.00% for courtesy, and 14.2% for volunteerism dimension. This indicates homogeneity for courtesy and volunteerism dimensions, high level of heterogeneity for altruism, conscientiousness and civic virtue, and middle level for other dimensions. Since homogeneity criteria seem to have been ensured for courtesy and volunteerism dimensions, effect values were tested both for fixed and random effects model. For other dimensions, the calculation was done according to random effects model. Effect value was seen to give the same results with random effects model for courtesy and volunteerism dimensions. Effect size for all dimensions was calculated by using random effects model. Besides, because of the fact that homogeneity condition seemed to be ensured for the dimensions of courtesy and volunteerism, effect size was calculated by also using Fixed Effect model and it was seen that effect size gave the same results with random effects model. Forest plot in Figure 4 shows the weights of every study included. Weights of the studies included seem to be close to each other.

Table 4 shows the findings for the effect of seniority on organizational citizenship behaviors.

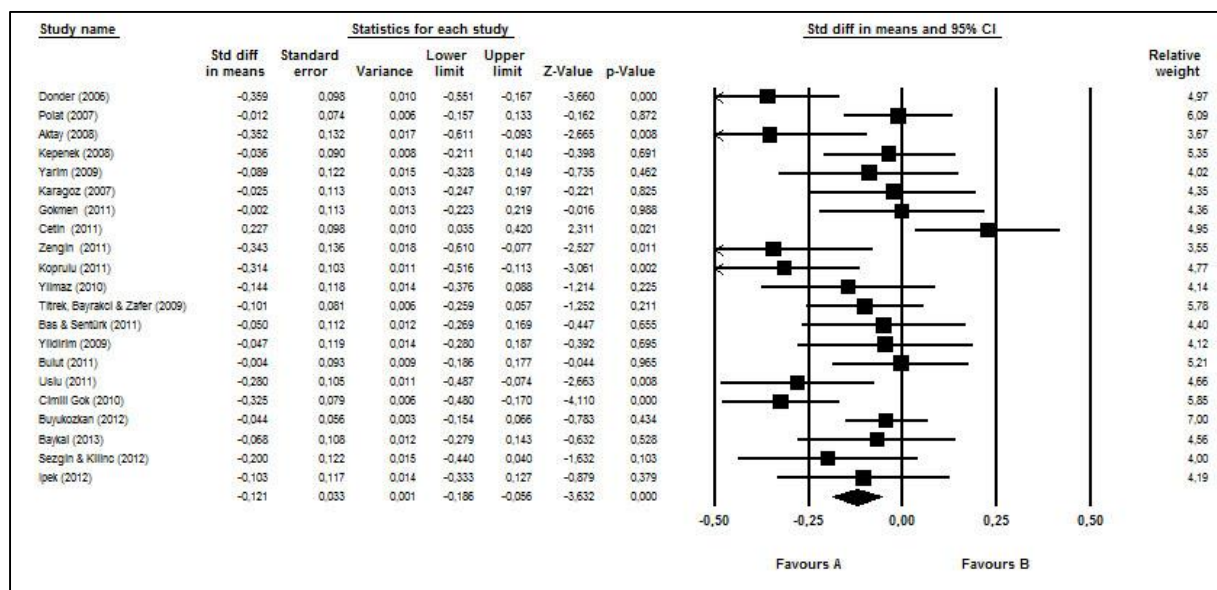


Figure 4. Forest Plot Showing the Effect of Seniority on Organizational Citizenship Behavior

Table 4. Effect of Seniority on Organizational Citizenship Behaviors

	ES	z	Q	I <sup>2</sup>	S <sub>error</sub>	ES <sub>low</sub>	ES <sub>up</sub>
Organizational Citizenship	-0.121	3.632	46.47	56.9	0.03	-0.19	-0.06
Conscientiousness	-0.178	3.468	51.00	74.5	0.05	-0.28	-0.08
Sportsmanship	-0.104	2.295	30.38	63.8	0.05	-0.19	-0.02
Civic Virtue	-0.133	2.508	41.87	73.7	0.05	-0.24	-0.03
Altruism	-0.101	1.652	70.37	81.5	0.06	-0.22	0.02
Courtesy	0.012	0.289	2.92	0.0	0.04	-0.07	0.09
Volunteerism	-0.227	-3.982	4.65	14.02	0.06	-0.34	-0.12

ES: Mean effect size, Q: Total heterogeneity level, ES<sub>low</sub>-ES<sub>up</sub>: ES lower and upper limit at 95% confidence level

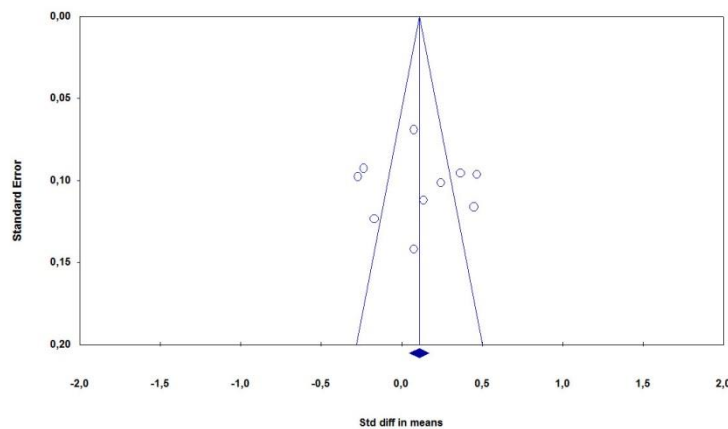
Table 4 shows that the effect size of seniority was calculated as -0.121 for overall organizational citizenship behaviors, -0.178 for conscientiousness, -0.104 for sportsmanship, -0.133 for civic virtue, -0.101 for altruism, 0.012 for courtesy, and -0.227 for volunteerism. Based on these effect sizes, teachers with more than 10 years teaching experience showed more organizational citizenship behaviors for overall organizational citizenship behaviors, conscientiousness, sportsmanship, civic virtue, altruism and volunteerism dimensions, whereas teachers with 10 years or less experience showed more organizational citizenship behaviors for the dimension of courtesy. Calculated effect sizes showed that this effect was weak for overall organizational citizenship behaviors, conscientiousness, sportsmanship, civic virtue, and altruism. The effect size for the volunteerism dimension was weak, yet close to medium, while it was very weak for courtesy dimension.

Study type and school type variables' moderator effect on effect values calculated for seniority variable was analyzed. Study type moderators were divided into two groups as theses/dissertations (n=16) and articles (n=5). Effect sizes belonging to research type groups were calculated as -0.123 for studies published as theses/dissertations and 0.114 for articles. Variance among studies was not statistically significant for study type moderator (Q=0.02, p>.05). Whether studies were published as articles or theses/dissertations did not change the effect size concerning teachers' organizational citizenship behavior in terms of gender variable.

School type moderators were divided into three groups as primary school (n=12), upper secondary school (n=7), and primary and upper secondary schools (n=2). However, two studies applied in primary and upper secondary schools were not evaluated due to the low number of studies. Effect sizes belonging to school type groups were calculated as -0.016 for studies conducted in primary schools, and 0.077 for upper secondary schools. Variance among studies was not statistically significant for school type moderator ( $Q=0.35, p>.05$ ). Whether the studies were conducted in primary schools or upper secondary schools did not change the effect size.

#### *Effect of Subject Matter on Organizational Citizenship Behaviors*

The final area of research was to examine the effect of subject on organizational citizenship behaviors. Prior to calculating of effect sizes, a funnel plot graph was used to check for the existence of publication bias. Figure 5 shows the relevant funnel plot demonstrating the results of publication bias in terms of subject matter variable. Additionally, the result of Orwin's Fail Safe N indicates that 23 additional studies with zero effect are required to reduce to 0.01 Hedge g. However, the studies included in meta-analysis are all the reached studies according to criteria of including all studies towards this research question in Turkey. There are no other studies to be reached than these 21 studies.



**Figure 5.** Funnel Plot in terms of Subject Matter Variable

Since there have been few studies on the variations between the dimensions of organizational citizenship behaviors as of subject, the meta-analysis was conducted on just 10 studies for overall organizational citizenship behaviors. As a result of the homogeneity test, Q value for general organizational citizenship value was calculated as 65.66 ( $p>.05$ ). As a result of homogeneity test, Q value was calculated as 65.66 ( $p>.05$ ), and  $I^2$  values as 86.3% for general organizational citizenship behaviour. Both Q value and  $I^2$  value indicated high level of heterogeneity. Forest plot in Figure 6 shows the weights of every study included. Weights of the studies included seem to be close to each other. Table 5 shows the findings obtained for the effect of subject on organizational citizenship behaviors.

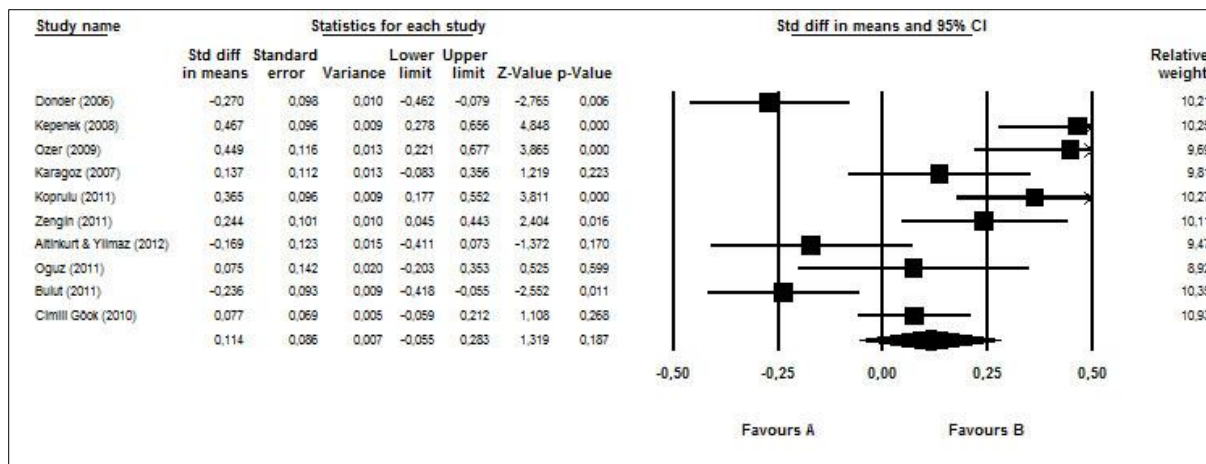


Figure 6. Forest Plot Showing the Effect of Subject Matter on Organizational Citizenship Behavior

Table 5. Effect of Subject Matter on Organizational Citizenship Behaviors

	ES	z	Q	I <sup>2</sup>	S <sub>error</sub>	ES <sub>low</sub>	ES <sub>up</sub>
Organizational Citizenship	0.114	1.319	65.66	86.3	0.09	-0.06	0.28

ES: Mean effect size, Q: Total heterogeneity level, ES<sub>low</sub>-ES<sub>up</sub>: ES lower and upper limit at 95% confidence level

Table 5 shows that the effect size of subject matter was calculated as 0.114 for overall organizational citizenship behaviors. Based on this effect size, classroom teachers showed more organizational citizenship behavior compared to subject matter teachers. Calculated effect sizes showed that subject variable had a weak effect on the overall organizational citizenship behaviors of teachers.

Study type and school type variables' moderator effect on effect values calculated for s subject matter variable was analyzed. Study type moderators were divided into two groups as theses/dissertations (n=8) and articles (n=2); and school type as primary schools (n=8) and upper secondary schools (n=2). The effect size belonging to study type groups was calculated as 0.132 for studies published as theses/dissertations, and -0.064 for articles. The variance among studies was not statistically significant for study type moderator (Q=177, p>.05). The effect size belonging to school type groups was calculated as 0.123 for studies conducted in primary schools, and 0.087 for upper secondary schools. The variance among studies was not statistically significant for school type moderator (Q=0.01, p>.05). Whether studies were conducted in primary or upper secondary schools did not change the effect size.

## Results, Discussion and Suggestions

This study aimed at a meta-analysis of the studies conducted at educational institutions with regards to the organizational citizenship behaviors, in order to determine the effect of gender, seniority and subject matter variables on organizational citizenship behaviors. Specific criteria were used to select studies to be included in the meta-analysis, and according to these criteria, 24 studies were included in the meta-analysis in terms of gender, 21 of seniority, and 10 of subject matter for overall organizational citizenship behaviors. The study found that the number of studies conducted significantly increased after 2005. From 2005 to 2013, a yearly average of six research studies was published on organizational citizenship behaviors. Almost all of these studies were quantitative studies. Although there were a few theoretical studies, no qualitative studies were found in the literature for that period regarding organizational citizenship behaviors. From the perspective of location of studies, studies included in this meta-analysis covers data collected from all geographic regions in Turkey, except for the region of Southeastern Anatolia. Sample of both pre-meta-analysis studies and those included in the meta-analysis mostly focused on the Aegean, Marmara, and Central Anatolian regions. This had a negative influence on the generalizability of research findings in terms of variables. The total sample size of the studies included in the research study for overall organizational citizenship behaviors was 11,374 in terms of gender variable, 10,619 of seniority, and 4,250 of the subject matter variable.

At the end of the research study, it was found that gender had a very weak effect on the overall organizational citizenship behaviors, as well as conscientiousness, sportsmanship, altruism and volunteerism dimensions of the organizational citizenship behaviors with an absolute value between 0.003-0.059. The effect size for civic virtue ( $ES=-0.104$ ) and courtesy ( $ES=-0.161$ ) dimensions, on the other hand, was weak. Female teachers showed more organizational citizenship behaviors at overall organizational citizenship behaviors, conscientiousness, courtesy and volunteerism dimensions, whereas male teachers showed more organizational citizenship behaviors at sportsmanship, civic virtue, and altruism dimensions. An individual review of each study under the meta-analysis showed that effect size for teachers' overall organizational citizenship behaviors was at medium level only for five studies (Argon & Alğan, 2013; İpek, 2012; Kepenek, 2008; Mercan, 2006; Yılmaz, 2010), while this value was weak or very weak in other studies. Thus, it is possible to say that gender does not have a significant effect on the organizational citizenship behaviors of teachers. The meta-analysis by Organ and Ryan (1995) also concluded that gender did not have any effect on organizational citizenship behaviors. For moderator variables which could express this difference were analyzed. As a result of the analysis, the variance among studies for school type moderator (primary, upper secondary school) was not found as significantly different, while statistically significant difference was found in study type moderator. The impact size of the articles was much more than theses/dissertations. When the impact sizes of the studies were evaluated one by one, one article (Argon & Alğan, 2013) and one thesis (Mercan, 2006), the effect values of which were relatively higher, were removed one by one and the rest were analyzed again. When these two studies were removed, the moderator impact was disappeared ( $Q=2.65$ ,  $p>.05$ ). However, the impact sizes of the articles were much more than theses. One of the reasons of this finding might be the high possibility of publishing the studies which show difference in among (Borenstein et al., 2013). Therefore, theses being included in meta-analyses may have reduced publication bias and provided much more reliable findings concerning gender's effect on organizational citizenship behaviour.

The study revealed that seniority had a weak effect on the overall organizational citizenship behaviors as well as conscientiousness, sportsmanship, civic virtue and altruism dimensions of the organizational citizenship behaviors, with an absolute value between 0.012-0.178. Seniority of teachers, on the other hand, had a weak, yet close to medium, effect on volunteerism ( $ES: 0.227$ ). Seniority of teachers had a very weak effect on the courtesy behaviors. Teachers with more than 11 years teaching experience showed more organizational citizenship behaviors at overall organizational citizenship behaviors, conscientiousness, sportsmanship, civic virtue, altruism and volunteerism dimensions, whereas teachers with 10 years or less experience showed more organizational citizenship behaviors for the courtesy dimension. In view of the finding that effect size for courtesy was close to zero, it is possible to say that the more senior teachers show more organizational

citizenship behaviors. Analyses were conducted also for moderator variables which might express this difference found in the results. As a result of the analysis, it was determined that study and school type moderators did not have impact on teachers' organizational citizenship behavior in terms of seniority variable. Among the studies that resulted in differences for the variable of seniority, all of them found that the more the years of teaching experience held, the more organizational citizenship behavior of teachers (Baş & Şentürk, 2011; Büyüközkan, 2012; Çimili Gök, 2010; Gökmen, 2011; Karagöz, 2007; Kepenek, 2008; Sezgin & Kılınc, 2012; Uslu, 2011; Yılmaz, 2012; Zengin, 2011). The one exception being Çetin (2011), which showed results that behaviors at altruism and conscientiousness dimension of organizational citizenship behaviors decrease as teachers' seniority increases. Nonetheless, in this meta-analysis study where the aforementioned studies have been combined, it was found out that teachers' seniority had a relatively more important effect on the organizational citizenship behaviors compared to gender. However, again, it was also interesting to note the increase in organizational citizenship behaviors of teachers as their seniority increases, even at a weak level. The reason for this finding might be senior teachers' emotional commitment to the organization for which they work. Other research studies in the literature (Kuşunoğlu, Bakay, & Tanrıöğen, 2010; Mathieu & Zajac, 1990) also revealed that senior or older employees had a higher organizational commitment. The meta-analysis by Alpkın, Dilek and Bozlağan (2005) also resulted in the existence of relations between employees' commitment and their organizational citizenship behaviors.

The final aim of the study was to determine the effect of subject matter on organizational citizenship behaviors. In literature, any meta-analysis or meta-evaluation studies examining teachers' organizational citizenship behaviour in terms of seniority variable were not reached. That's why, the discussion of the study findings was carried out with the originary studies examined for meta-analysis study. At the end of the meta-analysis, it was found out that classroom teachers showed more organizational citizenship behavior compared to subject teachers, yet the effect size was weak ( $ES=0.114$ ). As a result of the analysis result concerning moderator variables, it was determined that study and school type moderators did not have impact on teachers' organizational citizenship behaviour in terms of subject matter variable.

In their studies, Zengin (2011) found that classroom teachers exhibited more altruistic behaviors; Çimili Gök (2010) found that they exhibited more conscientiousness behaviors, and Argon and Alğan (2013) found that they exhibited more courtesy and civic virtue behaviors, compared to subject matter teachers. Nonetheless Bulut (2011) stated that subject matter teachers had a higher conscientiousness and civic virtue behaviors than classroom teachers.

An overall evaluation of the research results show that personal variables have a weak effect on teachers' organizational citizenship behaviors. Among the personal variables examined, mostly it was seniority ( $ES=0.121$ ), that influences overall organizational citizenship behaviors, followed by subject ( $ES=0.114$ ) and gender ( $ES=0.015$ ) respectively. However, this effect is at a weak level. This finding parallels the findings obtained by Organ and Ryan (1995) in their meta-analysis study, that personal variables do not affect organizational citizenship behaviors.

Organizational citizenship behavior has recently attracted the attention of Turkish researchers. Nevertheless, it may be said that the number of studies conducted in Turkey is far less than studies conducted overseas in view of the meta-analysis studies conducted abroad. Besides, researchers' failure to provide a compact and full reporting of the statistics in their studies makes it more difficult to conduct meta-analysis studies, and also hinders the quality of such studies. Therefore, more research studies are needed for a better understanding of teachers' organizational citizenship behaviors as well as the effect of cultural differences on these behaviors. This study was conducted to determine the effect of personal variables on teachers' organizational citizenship behaviors. Future studies may be constructed as meta-analysis studies to reveal possible relations between teachers' organizational citizenship behaviors and other variables such as job satisfaction, organizational justice perception, etc. It is also necessary to point out that researchers should be more careful in reporting statistics in their studies to allow for implementation of meta-analyses in the future.

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**Appendix 1. Studies included in The Meta-Analysis**

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