

A meta-analysis: Exploring the effects of gender on organisational commitment of teachers

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The consequences of organisational commitment (OC) are of great importance to organisations. Considering the effect of teacher commitment on student success and the increasing teacher turnover rates in the world, studies focusing on the organisational commitment of teachers gained more importance. However there is still a significant gap about the demographic and other factors that affect teachers' organisational commitment. This meta-analysis examines the relation between gender and organisational commitment of teachers. The relation was investigated as overall and in sub-dimensions of organisational commitment: affective, continuance and normative organisational commitment. 33 studies that use the Allen Meyer Organisational Commitment scale and which were carried out between 2000-2014 were used in the study. The sample included 11,690 teachers (female 6,232, male 5,458). Although the mean effect sizes for overall, affective, continuance and normative OC show that the effect of gender on the organisational commitment of teachers is in favour of females, the results highlight that gender is not a significant variable in determining teachers' level of organisational commitment.

Introduction

The speculations regarding the role of commitment to organisations have led to considerable research being conducted. The consequences of organisational commitment are of great importance to organisations. Probably the main reason behind this extensive research interest in organisational commitment lies in the assumption that employees who feel attached to their organisations work harder and have higher performance (Celep, 2000; Mathieu & Zajac, 1990; Meyer & Allen, 1997; Mowday, Porter & Steers, 1982; Riketta, 2002). According to its most often cited definition, organisational commitment can be defined as a “psychological state that binds the individual to the organisation” (Allen & Meyer, 1990). Organisations can benefit from their employees' organisational commitment in terms of lower absenteeism and turnover (Joiner & Bakalis, 2006), and higher productivity and work quality (Mathieu & Zajac, 1990).

Allen and Meyer (1990) theorised three distinct components of organisational commitment that maintain the employees' membership in an organisation: (a) affective commitment - a desire, (b) continuance commitment - a need, and (c) normative commitment - an obligation. It is noted that the extent of those three forms of organisational commitment rely on employees' motivation for growth and self-actualisation in the organisation. Over the past 40 years, the phenomenon of organisational commitment has been investigated in a variety of contexts in relation to some other variables and possible antecedents. There are many meta-analyses in the literature seeking to establish for the relationship between organisational commitment and antecedents, correlates and consequences (Mathieu & Zajac, 1990; Meyer, Stanley, Herscovitch & Topolnysky, 2002); turnover (Cohen, 1993; Cooper-Hakim &

Viswesvaran, 2005); job performance (Meyer, Paunonen, Gellatly, Goffin & Jackson, 1989; Riketta, 2002); gender (Aydın, Sarier & Uysal, 2011); absenteeism (Farrell & Stamm, 1998); career stage and outcomes of OC (Cohen, 1991); person and work-related variables (Lee, Carswell & Allen, 2000); burnout and counter-productive work behaviour (Dalal, 2005); job satisfaction (Cooper-Hakim & Viswesvaran, 2005); morale (DeCottis & Summers, 1987); knowledge sharing (Storey & Quintas, 2001; Hoof & Ridder, 2004), knowledge creation (Thompson & Heron, 2005), knowledge dissemination (Van Der Bij, Song & Weggeman, 2003) and many other variables.

The purpose of the current study is to conduct a meta-analysis investigating the association between gender and teachers' organisational commitment overall and in sub dimensions (affective, continuance and normative commitment). Only studies using the Allen-Meyer's Organisational Commitment scale (1990) were included in the research, owing to the fact that Allen-Meyer's scale is the most widely used instrument in the research context.

Method

A meta-analysis method was employed to answer the research questions. Meta-analysis is a statistical method that integrates the results of a series of independent studies which address related or identical hypotheses (Lipsey & Wilson, 2001). The goal of meta-analysis is to find a common metric, or effect size (ES), to encode the selected research findings in a term, common across various studies. In meta-analysis, the effect size is the unit of currency that reflects the strength of a relationship between two variables, namely the control and the experiment group (Borenstein, Hedges, Higgins & Rothstein, 2009).

The steps undertaken for the meta-analysis are:

1. developing concise criteria for inclusion
2. identification of relevant studies
3. coding procedure
4. calculating standardised effect sizes for individual studies and generating an overall effect size across overall and sub-group dimensions of commitment
5. publication bias

Criteria for including studies

Initially, the criteria for studies to be included in this analysis were determined as the following:

1. Studies focusing on teacher commitment;
2. Studies reporting gender as a demographic variable;
3. Studies reporting quantitative data (sample size, SD, mean or sample size T value or F value) for the calculation of effect size;
4. Topic-related Masters or PhD theses and studies published in a professional journal between 2000 and 2014.

Identification of studies

The search for studies to be used in this meta-analysis involved computer and manual methods in order to identify existing studies on teacher organisational commitment. A computerised search included the following databases: ERIC (Education Resources Information Center), EBSCO, Psycinfo, ProQuest, ASOS Index (Akademia Index of Social Sciences), Higher Education Council National Dissertation Centre, and Google Scholar. Search terms used were teacher commitment, organisational commitment and commitment scale. Further, the names of previously identified authors of short-listed articles were searched in the ERIC and ProQuest databases. Lastly, reference lists of all short-listed articles were manually scanned for further relevant titles. The databases used were searched for the period 2000-2013 (in November, 2013). In addition to computerised searches, journals of schools of educational sciences were searched manually. With the elimination of double entries, 108 studies were yielded. After the initial examination of abstracts of each study, 69 studies, 53 theses and 16 journal articles, were selected for full review. With the identification of 3 journal articles that were reproduced from 3 theses that are included in the pool of 69 studies, the 3 theses were eliminated.

A more detailed review of the 66 studies revealed that 33 studies investigated overall organisational commitment. Eighteen of those studies adopted the Allen Meyer Organisational Commitment scale (1990) and in the remaining 13 studies two different organisational commitment scales were used (Porter, Steers, Mowday & Boulian, 1974; O'Reilly & Chatman, 1986). Allen Meyer Organisational Commitment Scale is the most widely used commitment scale worldwide. Among 69 studies identified at first hand to be included in the study, in 33 of them the Allen Meyer Organisational Commitment Scale was employed. Therefore those 33 studies which utilised the Turkish version of the questionnaire for the Allen Meyer Organisational Commitment scale (1990) adapted by Boylu, Pelit and Güçer (2007) were included in the meta-analysis. Of the 33 studies:

- 18 studies reported overall organisational commitment;
- 30 reported affective commitment;
- 29 reported continuance commitment. In Yalçın's (2009) study, based on the result of the factor analysis, data regarding continuance commitment is divided into two dimensions, "Alternative Shortage Continuance Commitment" and "Investment Continuance Commitment";
- 29 reported normative commitment. In Karaca's (2009) study only two dimensions of commitment (affective and continuance commitment) are identified based on the results of the factor analysis.

Coding procedure

On the basis of Lipsey and Wilson (2001) a coding form that specifies the information to be extracted from each eligible study was developed. The coding form consists of information about study characteristics (study descriptors) and the empirical findings of the study. Therefore the study findings represented in the form of effect size values are the dependent variables of this meta-analysis. Study characteristics such as methods,

samples and contexts constitute the independent variables. The coding form included the following components.

1. Bibliographic reference: Study ID, type of publication, publication year.
2. Sample descriptors: Sample size, gender, place of the study, school level, year the study conducted.
3. Effect size (EF) section: Means, standard deviations, T value, F value, chi-squares and effect size calculations.

All studies were coded both by the author of the study and a colleague experienced in data coding in meta-analysis. Inter-rater agreement levels for the three coding categories ranged from 99% to 100%.

As seen in Table 1 the sample of 33 studies included in the meta-analysis consisted of 11,690 teachers in total. There seems to be a balance (53:47%) between the number of female teachers, 6,232, and the number of male teachers, 5,458. The demographic characteristics of the sample group can be seen in detail in Table 1. Among the 33 studies included in the meta-analysis there are 25 Masters theses, seven journal articles, and one PhD dissertations.

In this meta-analysis the effect of gender on organisational commitment of teachers was investigated. Effect size d (Cohen's ES) calculation system, which is defined by Cohen (1988) as the difference between the means, $M1 - M2$, divided by standard deviation of either group, was used. Statistical data from each study were converted to an effect size metric by employing formulas provided by Borenstein et al. (2009). Two different data types were used to measure ES: (a) studies that reported sample size, standard deviation and mean values for male and female teachers, (b) studies that reported sample size for male and female teachers and p -value. Cohen's (1988) ES classification system (ES = 0.2 small effect, ES = 0.5 medium effect, and ES = 0.8 large effect) was used for interpreting the findings.

Calculating effect size values

The practice of using fixed or random effects model in meta-analysis is a widely discussed issue among scholars. Only generalisations to the study sample can be made by using the fixed effects model, while generalisations to a larger population are more suitable using the random effects model (Cooper & Hedges, 1994; Hedges & Vevea, 1998).

Table 2 identifies the results of homogeneity tests for overall and sub-group commitment types. The variation among correlations was analysed using Hedges's Q test of homogeneity to test the homogeneity of the correlations, (Hedges & Olkin, 1985). This test uses chi-square statistics, with $(k - 1)$ degrees of freedom, where k is the number of correlations in the analysis. As the results of the analysis show, in cases where significance was below (p value) 0.05 for both overall and sub-group dimensions of commitment, a random effects model was employed.

Table 1: Characteristics of studies included in the meta-analysis

No	Authors	Title	Data coll. date	Pub. type	Sample		Educ. level	Place	Over-all comm.	Comm dim.
					F	M				
1	Akgül, 2012	Organizational commitment and perception of organizational identity	2010-2011	MT	199	101	E	Sakarya		x
2	Akyol et al., 2013	Commitment levels of physical education and classroom teachers	NA	Artic.	116	184	E	Turkey		x
3	Altın, 2010	Organizational commitment and creativity	2009-2010	MT	110	62	E	Istanbul	x	
4	Altun, 2010	Organizational trust and organizational commitment	2009-2010	MT	194	71	E-S	Istanbul	x	x
5	Aydoğan, 2008	Work stress and organizational commitment	NA	MT	265	113	E	Ankara		x
6	Aykut, 2007	Organizational justice and commitment	2006-2007	MT	375	346	E	Istanbul	x	
7	Başığit, 2009	Participating decision making and organizational commitment	2008-2009	MT	187	134	E	Ankara	x	x
8	Budak, 2009	Organizational commitment of paid and employed teachers	2008-2009	MT	264	211	E	Kocaeli	x	x
9	Canpolat, 2011	Teacher career steps and motivation and commitment	2010-2011	MT	178	249	E	Elazığ		x
10	Çakır, 2007	Organizational commitment and school culture	2006-2007	MT	133	67	E	Istanbul	x	x
11	Çakınberk et al., 2011	Organizational identification and commitment	NA	Artic.	63	72	NA	Malatya Tunceli		x
12	Daniş, 2009	Organizational commitment degrees of teachers	2008-2009	MT	48	192	S	Izmit	x	x
13	Doğan, A., 2008	Organizational justice and commitment	2007-2008	MT	150	156	E	Elazığ		x
14	Doğan, N., 2009	Emotional intelligence and organizational commitment	2009-2010	MT	174	138	E	Istanbul	x	x
15	Eğriboyun, 2013	Organizational support and commitment	2011-2012	PhD thesis	256	273	S	Bolu	x	x
16	Eskiköy-Aydoğan, 2010	Organizational commitment degrees of teachers	2009-2010	MT	81	69	S	Istanbul		x
17	Garipağaoğlu, 2013	Examining organizational commitment of private school teachers	2012	Artic.	35	111	E-S	Istanbul	x	
18	Işık, 2009	Ethical leadership and organizational commitment	2008-2009	MT	153	106	E	Istanbul		x
19	Kahveci, 2010	Organizational silence and commitment	2009-2010	MT	186	256	E	Elazığ		x
20	Karaca, 2009	HRM competencies of leaders and organizational commitment of teachers	2008-2009	MT	210	193	E	Antalya	x	x
21	Kılıçoğlu, 2010	Teacher perception of organizational commitment	2009-2010	MT	341	143	E	İzmir		x
22	Kolay, 2012	Organizational silence and commitment	2011-2012	MT	94	50	S	İstanbul	x	x

No	Authors	Title	Data coll. date	Pub. type	Sample		Educ. level	Place	Over-all comm.	Comm dim.
					F	M				
23	Kurşunoğlu et al., 2010	Organizational commitment degrees of teachers	2009-2010	Artic.	238	115	E	Izmir		x
24	Nartgün & Menep, 2010	Teacher perception of organizational commitment	2008-2009	Artic.	233	230	E	Şırnak		x
25	Özkan, 2008	Organizational commitment degrees of teachers	2007-2008	MT	148	165	E	Sakarya		x
26	Paker, 2009	Organizational trust and commitment	2008-2009	MT	183	116	E	Sakarya		x
27	Sarıkaya, 2011	Organizational commitment and performance	2010-2011	MT	127	43	E	Istanbul		x
28	Topaloğlu et al., 2008	Investigation of organizational commitment around some basic variables	NA	Artic.	242	101	E-S	Ankara	x	
29	Yalçın, 2009	Validity and reliability analysis of Meyer & Allen scale into Turkish	2008	MT	148	289	E-S	Tokat	x	x
30	Yıldırım, 2013	School principal's role of supervision and organizational commitment of teachers	2011-2012	MT	209	200	E	Elazığ	x	x
31	Yörük & Sağban, 2012	School principal's cultural leadership and organizational commitment of teachers	2009-2010	Artic.	352	425	E-S	Afyon	x	x
32	Yumuşak, 2013	Mobbing and organizational commitment	2011-2012	MT	383	319	E	Tokat		x
33	Zeyrek, 2008	Success and organizational commitment	2005-2006	MT	157	158	E-S	Istanbul	x	x

NA: Not applicable. E: Elementary. S: Secondary. MT: Masters Thesis

Table 2: Q test and I² indices for heterogeneity meta-analyses for overall and sub-group commitment

Commitment	k	Q	P	I ²	95% CI		Model
					L _l	L _u	
Overall commitment	18	58.053	0.000	70.716	-0.074	0.121	Random (p<0.05)
Affective commitment	30	202.085	0.000	85.650	-0.106	0.106	Random (p<0.05)
Continuance commitment	29	136.061	0.000	79.421	-0.005	0.173	Random (p<0.05)
Normative commitment	29	142.442	0.000	80.343	-0.008	0.178	Random (p<0.05)

k: number of studies. Q: homogeneity test. P: probability level associated to the Q test. I²: I² index. 95% CI: 95% confidence interval around I². L_l and L_u: lower and upper confidence limits for I².

Publication bias

In meta-analysis publication bias calculations play a significant role in ensuring the reliability of the analysis. In this study, in order to prevent the 'File drawer' effect (which refers to studies never reported because of finding nothing of statistical significance or finding something that is contrary to the existing research) on the ES values in the meta-analysis, Rosenthal's (1991) 'Fail-safe N' method was employed. Fail-safe N reveals the

number of missing studies required to render the effect statistically insignificant. Therefore, the Fail-safe N helps to determine the likelihood of publication bias possibility.

Findings

Overall organisational commitment

In the meta-analysis that was conducted to determine the effects of gender on the overall organisational commitment of teachers, 18 studies were included. The analysis revealed that the lowest effect size was calculated as -0.348 (for the benefit of females) and the highest effect size was calculated as 0.812 among the 18 studies.

Table 3: Overall commitment studies included in the meta-analysis

No.	Authors	Effect size		95% Confidence interval		Test of null hypothesis (2-tail)	Sample size	
		G	SE	Lower limit	Upper limit		Male	Female
1	Yörük & Sağban, 2012	-0.098	0.072	-0.239	0.044	-1.356	425	352
2	Budak, 2009	-0.265	0.093	-0.446	-0.083	-2.858	211	264
3	Çakır, 2007	0.143	0.149	-0.150	0.436	0.959	67	133
4	Danış, 2009	-0.075	0.161	-0.391	0.240	-0.469	192	48
5	Karaca, 2009	-0.096	0.100	-0.292	0.099	-0.968	193	210
6	Sarıkaya, 2011	0.812	0.181	0.457	1.167	4.484	43	127
7	Kolay, 2012	0.070	0.174	-0.272	0.411	0.401	50	94
8	Yıldırım, 2013	0.159	0.099	-0.035	0.353	1.608	200	209
9	Eğriboyun, 2013	0.027	0.087	-0.144	0.197	0.308	273	256
10	Altın, 2010	0.530	0.161	0.215	0.845	3.301	62	110
11	Altun, 2010	0.042	0.138	-0.229	0.313	0.305	71	194
12	Zeyrak, 2008	-0.348	0.113	-0.570	-0.126	-3.075	158	157
13	Aykut, 2007	0.007	0.074	-0.139	0.153	0.098	346	375
14	Başığit, 2009	-0.082	0.113	-0.303	0.139	-0.726	134	187
15	Yalçın, 2009	-0.103	0.101	-0.301	0.095	-1.024	289	148
16	Topaloğlu, et al. 2009	0.045	0.118	-0.187	0.276	0.378	101	242
17	Garipağaoğlu, 2013	0.203	0.193	-0.176	0.582	1.051	35	111
18	Doğan, N. 2009	-0.033	0.114	-0.256	0.190	-0.288	138	174
	Cumulative	0.023	0.050	-0.074	0.121	0.466	2988	3391

When the ES values for each study is examined (see Table 3), among 8 studies that revealed males with higher overall commitment degrees than females, only one study had a medium ES with the value 0.348; one study had a small ES with the value 0.265 and for other studies the ES value revealed to be not significant in Cohen's classification (1988).

Among the studies that were included in overall organisational commitment, 10 studies revealed that organisational commitment degrees of females were higher than those of males. Among those 10 studies, one revealed an ES value (0.812) with a large level of association between gender and organisational commitment, one study revealed a medium level of association with 0.530 ES value and another study revealed a small association

with 0.203 ES value. The ES values of the remaining seven studies revealed insignificant ES values.

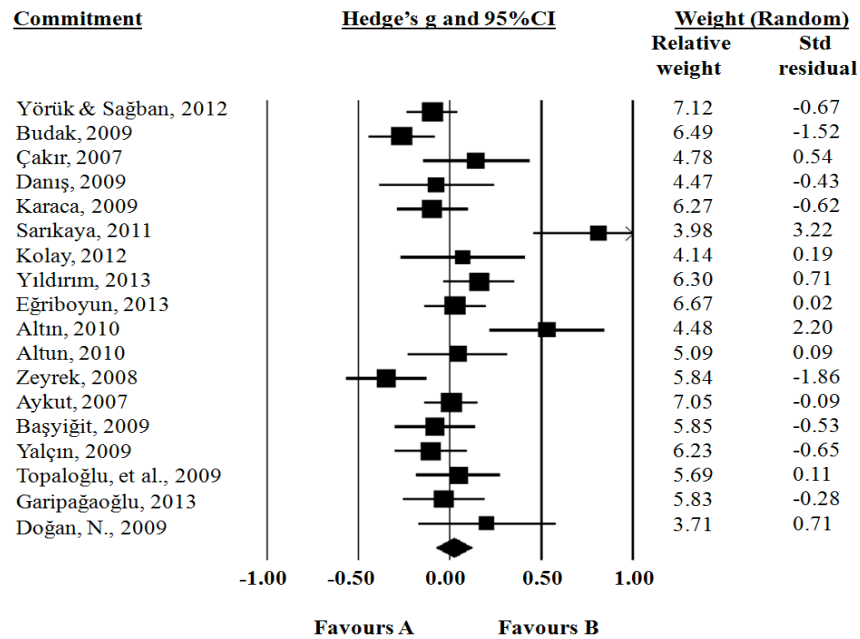


Figure 1: Forest plot of the effects of gender on overall teacher organisational commitment

Figure 1 illustrates the forest plot of the effects of gender on overall organisational commitment of teachers. Analysis employing a fixed effects model on 18 studies reveals ES as 0.023 within 0.121 and -0.074 95% confidence interval in favour of female teachers. This finding shows that female teachers have higher overall organisational commitment than male teachers. Using Cohen's (1977) classification, the overall ES value reflects insignificant differences between female and male teachers' overall organisational commitment. The fail-safe N method (Rosenthal, 1991) employed to assess publication bias for overall commitment was calculated to be 396. This means that 396 unpublished studies with a mean effect size of zero would need to be included in the sample to reduce the observed effect size of 0.023 to 0. As the fail-safe N is substantially higher than the number of studies included in the analysis, the result of the meta-analysis can be interpreted as reliable.

Affective organisational commitment

In the meta-analysis that was conducted to determine the effects of gender on affective organisational commitment of teachers, 30 studies were included. The analysis revealed that the lowest effect size was calculated as -0.486 (for the benefit of females) and the highest effect size was calculated as 1.416 for each of the 30 studies.

Table 4: Affective commitment studies included in the meta-analysis

No	Authors	Effect size		95% Confidence interval		Test of null hypothesis (2-tail)	Sample size	
		G	SE	Lower limit	Upper limit		Male	Female
1	Akyol, et al., 2013	0.167	0.118	-0.065	0.400	1.413	184	116
2	Yörük & Sağban, 2012	-0.121	0.072	-0.262	0.020	-1.678	425	352
3	Budak, 2009	-0.140	0.092	-0.321	0.041	-1.520	211	264
4	Çakır, 2007	0.189	0.150	-0.104	0.482	1.263	67	133
5	Canpolat, 2011	-0.486	0.099	-0.681	-0.291	-4.892	249	178
6	Dams, 2009	-0.290	0.161	-0.607	0.026	-1.799	192	48
7	Aydoğan, 2008	0.091	0.112	-0.129	0.311	0.812	113	265
8	Isık, 2009	-0.146	0.126	-0.394	0.101	-1.160	106	153
9	Kahveci, 2010	0.216	0.096	0.027	0.405	2.244	256	186
10	Karaca, 2009	-0.204	0.100	-0.400	-0.009	-2.047	193	210
11	Kılıçoğlu, 2010	-0.086	0.100	-0.281	0.109	-0.865	143	341
12	Özkan, 2008	0.113	0.113	-0.108	0.335	1.003	165	148
13	Paker, 2009	0.143	0.119	-0.089	0.375	1.205	116	183
14	Sarıkaya, 2011	1.416	0.192	1.040	1.792	7.387	43	127
15	Yumusak, 2013	-0.425	0.077	-0.576	-0.275	-5.557	319	383
16	Akgül, 2012	-0.334	0.114	-0.558	-0.111	-2.934	161	150
17	Kolay, 2012	0.122	0.174	-0.219	0.464	0.701	50	94
18	Yıldırım, 2013	0.032	0.099	-0.162	0.226	0.324	200	209
19	Eğriboyun, 2013	0.020	0.087	-0.150	0.191	0.233	273	256
20	Altın, 2010	1.176	0.170	0.842	1.510	6.902	62	10
21	Altun, 2010	0.013	0.138	-0.258	0.284	0.094	71	194
22	Zeyrek, 2008	-0.359	0.113	-0.581	-0.137	-3.165	158	157
23	Basyiğit, 2009	-0.075	0.113	-0.297	0.146	-0.667	134	187
24	Çakınberk, 2011	-0.256	0.172	-0.593	0.082	-1.484	72	63
25	Yalçın, 2009	-0.034	0.101	-0.232	0.164	-0.335	289	148
26	Kursunoğlu et al., 2010	-0.160	0.113	-0.382	0.063	-1.409	115	238
27	Nartgün & Menep, 2010	0.034	0.093	-0.148	0.216	0.367	230	233
28	Doğan, N., 2009	-0.103	0.114	-0.326	0.120	-0.903	138	174
29	Doğan, A., 2008	-0.113	0.114	-0.337	0.1107	-0.993	156	150
30	Eskiköy-Aydoğan, 2010	0.155	0.163	-0.165	0.475	0.952	69	81
	Cumulative	0.000	0.054	-0.106	0.106	0.006	4960	5431

When the ES value for each study is examined (see Table 4), among the 16 studies that revealed males with higher affective commitment levels than females, three studies had a small ES, with values of -0.204; -0.256 and -0.290; 3 studies had medium ES with the values of -0.334; -0.359; -0.425 and -0.486. For the other studies, the ES value emerged as insignificant in Cohen's classification (1988).

Among the studies that were included in overall organisational commitment, 14 studies revealed that affective organisational commitment levels of females were higher than males. Among those 14 studies, one revealed a small ES value 0.216 and two studies revealed large effect sizes as 1.416 and 1.176. The ES values of the rest of the seven studies revealed insignificant ES values.

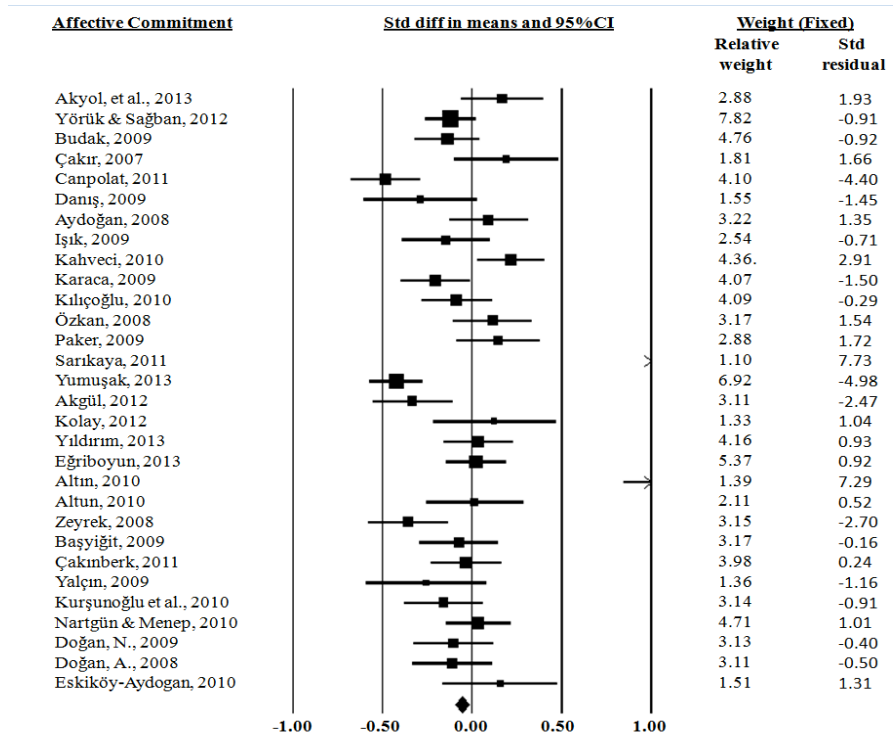


Figure 2: Forest plot of the effects of gender on teacher affective commitment

Figure 2 illustrates the forest plot of the effects of gender on affective organisational commitment of teachers. Analysis done employing fixed effects model on 30 studies revealed ES as 0.00 within an upper limit of 0.106, and a -0.106 lower limit of 95% confidence interval in favour of female teachers. This finding shows that there is no significant association between female and male teacher affective organisational commitment.

Continuance organisational commitment

In the meta-analysis that was conducted to determine the effects of gender on continuance organisational commitment of teachers, 29 studies were included. The analysis revealed that the lowest effect size was calculated as -0.223 (for the benefit of females) and the highest effect size was calculated as 1.565 among the 29 studies.

When the ES values for each study is examined (see Table 5), among 10 studies that revealed males with higher continuance commitment degrees than females, only one study had a small ES with the value of -0.223. For the other studies, the ES value revealed to be not significant in Cohen's classification (1988).

Among the studies that were included in meta-analysis, 19 studies revealed that organisational continuance commitment degrees of females were higher than males. Of

those 19 studies, two revealed small ES values 0.234 and 0.203; two studies revealed large effect sizes as 1.565 and 1.068. The ES values of the remaining 15 studies revealed no significant ES values.

Table 5: Continuance commitment studies included in the meta-analysis

No	Authors	Effect size		95% Confidence interval		Test of null hypothesis (2-tail)	Sample size	
		G	SE	Lower limit	Upper limit		Male	Female
1	Akyol, et al., 2013	0.203	0.119	-0.030	0.436	1.707	184	116
2	Yörük & Sağban, 2012	0.000	0.072	-0.141	0.141	0.000	425	352
3	Budak, 2009	0.89	0.093	-0.093	0.271	0.959	230	233
4	Çakır, 2007	-0.150	0.092	-0.331	0.031	-1.622	211	264
5	Canpolat, 2011	-0.140	0.098	-0.332	0.052	-1.427	249	178
6	Danış, 2009	0.014	0.161	-0.302	0.329	0.084	192	48
7	Aydoğan, 2008	0.135	0.112	-0.085	0.355	1.204	113	265
8	Isık, 2009	-0.223	0.126	-0.471	0.025	-1.764	106	153
9	Kahveci, 2010	0.104	0.096	-0.085	0.293	1.081	256	186
10	Karaca, 2009	0.068	0.100	-0.128	0.263	0.678	193	210
11	Kılıçoğlu, 2010	0.159	0.100	-0.036	0.354	1.597	143	341
12	Özkan, 2008	-0.023	0.113	-0.245	0.198	-0.207	165	148
13	Paker, 2009	0.174	0.119	-0.058	0.407	1.469	116	183
14	Sarıkaya	1.565	0.195	1.182	1.947	8.021	43	127
15	Yumusak, 2013	0.234	0.076	0.085	0.383	3.077	319	383
16	Akgül, 2012	-0.064	0.113	-0.286	0.158	-0.562	161	150
17	Kolay, 2012	0.022	0.174	-0.319	0.364	0.129	50	94
18	Yıldırım, 2013	0.028	0.099	-0.166	0.221	0.282	200	209
19	Eğriboyun, 2013	0.045	0.087	-0.125	0.216	0.522	273	256
20	Altın, 2010	1.068	0.167	0.741	1.395	6.399	63	112
21	Altun, 2010	-0.132	0.138	-0.403	0.140	-0.952	71	194
22	Zeyrek, 2008	-0.076	0.112	-0.297	0.144	-0.680	158	157
23	Basyiğit, 2009	0.035	0.113	-0.186	0.256	0.309	134	187
24	Çakınberk, 2011	-0.163	0.172	-0.500	0.173	-0.950	72	63
25	Kursunoğlu, et al., 2010	-0.178	0.114	-0.400	0.045	-1.566	115	238
26	Nartgün & Menep, 2010	0.089	0.093	-0.093	0.271	0.959	230	233
27	Doğan, N., 2009	-0.131	0.114	-0.354	0.092	-1.152	138	174
28	Doğan, A., 2008	0.187	0.114	-0.037	0.411	1.636	156	150
29	Eskiköy-Aydoğan, 2010	0.038	0.163	-0.282	0.357	0.232	69	81
	Cumulative	0.084	0.046	-0.005	0.173	1.839	4835	5485

Figure 3 illustrates the forest plot of the effects of gender on affective organisational commitment of teachers. Analysis done employing the fixed effects model on 29 studies revealed ES as 0.084 within 0.173 upper limit and -0.005 lower limit of 95% confidence interval in favour of female teachers. This finding shows that there is no significant association between female and male teacher continuance organisational commitment. However the fail-safe N method (Rosenthal, 1991) employed to assess the publication bias for continuance commitment was calculated to be 2407. This means that although the ES is not significant this value obtained from 29 studies can be reduced to 0 only with the inclusion of 2407 studies.

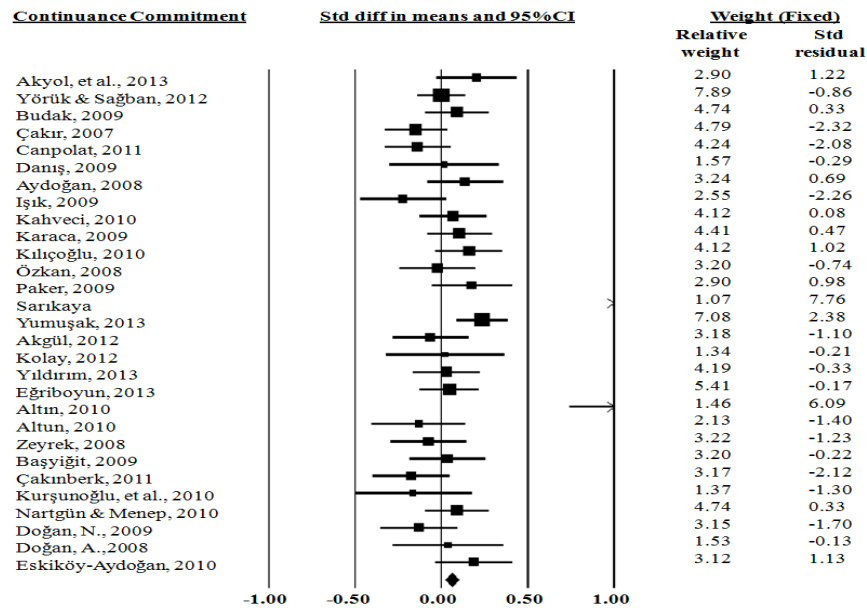


Figure 3: Forest plot of the effects of gender on teacher continuance commitment

Normative organisational commitment

In the meta-analysis that was conducted to determine the effects of gender on normative organisational commitment of teachers, 29 studies were included. The analysis revealed that the lowest effect size was calculated as -0.426 (for the benefit of females) and the highest effect size was calculated as 1.069 among the 29 studies.

When the ES values for each study is examined (see Table 6), among 11 studies that revealed males with higher normative organisational commitment degrees than females, two studies had small ES with the values of -0.287 and -0.301; three studies revealed medium ES values -0.426; -0.392; -0.347; -0.301. For the other studies the ES value was found to be not significant in Cohen's classification (1988).

Among the studies that were included in the meta-analysis, 18 studies revealed that normative organisational commitment degrees of females were higher than males. Among those 18 studies, two reveal small ES values 0.277 and 0.252; one study revealed medium effect size of 0.492; one study reveals a large effect size as 1.069. The ES values of remaining 14 studies revealed no significant ES values.

Table 6: Normative commitment studies included in the meta-analysis

No	Authors	Effect size		95% Confidence interval		Test of null hypothesis (2-tail)	Sample size	
		G	SE	Lower limit	Upper limit		Male	Female
1	Akyol, et al., 2013	-0.197	0.119	-0.429	0.035	-1.661	184	116
2	Yörük & Sağban, 2012	-0.019	0.072	-0.160	0.122	-0.267	425	352
3	Budak, 2009	0.252	0.093	0.070	0.433	2.718	211	264
4	Çakır, 2007	0.197	0.150	-0.096	0.490	1.318	67	133
5	Canpolat, 2011	-0.426	0.099	-0.620	-0.232	-4.301	249	178
6	Danis, 2009	0.161	0.161	-0.155	0.476	0.997	192	48
7	Aydoğan, 2008	0.051	0.112	-0.169	0.271	0.454	113	265
8	Isık, 2009	0.492	0.128	0.241	0.743	3.849	106	153
9	Kahveci, 2010	0.092	0.096	-0.097	0.280	0.953	256	186
10	Kılıçoğlu, 2010	-0.044	0.099	-0.239	0.151	-0.444	143	341
11	Özkan, 2008	0.063	0.113	-0.159	0.284	0.556	148	165
12	Paker, 2009	-0.048	0.118	-0.280	0.184	-0.403	116	183
13	Sarıkaya, 2011	0.053	0.176	-0.291	0.398	0.303	43	127
14	Yumusak, 2013	-0.392	0.076	-0.542	-0.242	-5.127	319	383
15	Akgül, 2012	0.113	0.113	-0.109	0.335	0.997	161	150
16	Kolay, 2012	0.012	0.174	-0.329	0.353	-0.069	50	94
17	Yıldırım, 2013	0.028	0.099	-0.166	0.221	0.282	200	209
18	Eğriboyun, 2013	0.092	0.087	-0.079	0.262	1.056	273	256
19	Altın, 2010	1.069	0.166	0.744	1.394	6.447	63	112
20	Altun, 2010	0.187	0.139	-0.085	0.458	1.347	71	194
21	Zeyrek, 2008	-0.301	0.113	-0.522	-0.079	-2.655	158	157
22	Basyiğit, 2009	-0.134	0.113	-0.356	0.087	-1.189	134	187
23	Yalçın, 2009	-0.035	0.101	-0.249	0.180	-0.317	289	148
24	Çakınberk, 2011	-0.347	0.173	-0.686	-0.008	-2.007	72	63
25	Kürsunoğlu, et al., 2010	0.277	0.114	0.054	0.500	2.432	115	238
26	Nartgün & Menep, 2010	0.022	0.093	-0.160	0.204	0.239	230	233
27	Doğan, N., 2009	0.108	0.114	-0.115	0.331	0.951	138	174
28	Doğan, A., 2008	0.000	0.114	-0.224	0.224	0.000	156	150
29	Eskiköy-Aydoğan, 2010	-0.287	0.165	-0.610	0.039	-1.726	68	79
	Cumulative	0.029	0.047	-0.064	0.122	0.612	4750	5338

Discussion and conclusion

The study covered 33 theses and articles covering the years 2000-2014. According to the results of the analysis, the mean effect sizes for overall, affective, continuance and normative OC showed that the effect of gender on the organisational commitment of teachers was slightly in favour of females with overall OC ES of 0.023, Affective commitment ES 0.00, Continuance commitment ES 0.084 and Normative commitment ES 0.029. However ES values did not reveal gender as a significant variable in determining teachers' level of organisational commitment.

Prior research revealed inconsistent conclusions about the link between gender and OC. In several studies, men were found to be more committed than women (Marsden, Kalleberg, & Cook, 1993; Dixon, Turner, Cunningham, Sagas & Kent, 2005; Kalleberg & Marsden, 1995). The traditional breadwinner role of men may explain men having a higher

OC level than women. Owing to the gender stereotypes, there are presumptions that women are expected to be less committed to work and inclined to leave their jobs at higher rates than men (Marsden et al., 1993). In many other studies women were found to be more committed than men (Alvi & Ahmed, 1987; Hrebiniak & Alutto, 1972; Mowday, Porter & Steers, 1982). However, while such conclusions are being made, job characteristics should not be ignored as they explain a good deal about gender differences in job and career variables.

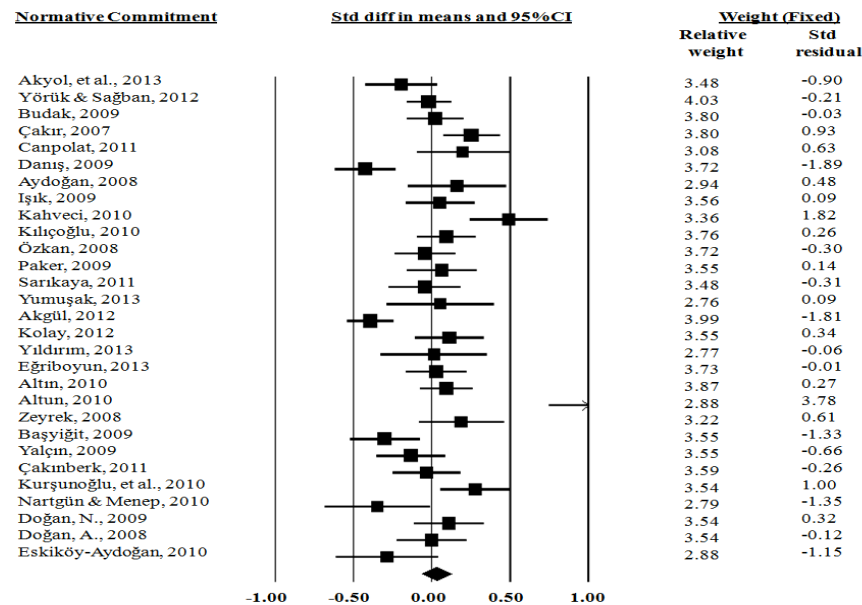


Figure 4: Forest plot of the effects of gender on teacher normative commitment

On the other hand there are meta-analytic reviews of literature that examine the link between gender and OC. Mathieu and Zajac (1990) examined gender and OC in 14 studies and found out that women displayed slightly higher commitment. However as with the findings of this study, they concluded that there was an inconsistent relationship between gender and levels of OC. A similar finding was put forth by Cohen and Lowenberg (1990) stating that a conclusion cannot be drawn about a significant relationship between gender and OC. In their meta-analysis on gender and organisational commitment of teachers, Aydın, Sarier and Uysal (2011) studied 15 Masters and PhD theses covering the years 2005-2009. The results of their study show that using random effects model ES values for Affective commitment is 0.06; Continuance commitment is 0.07; and Normative commitment is 0.01 in favour of females. Judgments employing Cohen's ES calculation system revealed no links between gender and levels of OC. The findings of the previous meta-analytic research investigating the relation between gender and levels of OC are in line with the findings of the current study.

While interpreting the results of this meta-analysis, limitations of the study should be kept in mind. Its scope is limited to national studies/theses published or completed between

2000-2014. The reason for not going back further than 10 years is the limited availability of the dissertations electronically prior to 2000. The financial cost and time constraint for obtaining hard copy dissertations was prohibitive.

This research is aimed to make a valuable contribution to the global literature on the association between organisational commitment and gender. The Three-Component model of Allen Meyer is increasingly being conducted around the world. Based on the cultural and geographical differences among countries and even continents, the model may reveal interesting findings across gender and levels of OC. Therefore, more systematic cross-cultural research is needed to examine the relationship between gender and levels of organisational commitment.

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Endnotes

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