The Effect of Gender on Teachers’ Job Satisfaction: A Meta-analysis

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ABSTRACT The basic purpose of this study is to determine the varying effects on teachers’ perception and opinions about job satisfaction in accordance with their gender. Within this scope, 59 studies (master and doctorate thesis, articles) deemed to meet the inclusion criteria were chosen from studies in Turkey to be used in this study. In accordance with the results of this study, an effect size with statistical significance at an insignificant level was determined on the part of male teachers according to a fixed effect model and on the part of female teachers according to a random effect model. As a consequence of the moderator analysis conducted, the effect sizes of the studies were determined to change based on the publication type, the school type, education level, the region in which the research was conducted, the teacher’s title and the researcher’s gender.

INTRODUCTION

One of the fundamental subjects of recent studies concerning the relationship between an organization’s efficiency and employees’ effectiveness is job satisfaction (JS). Teacher’s JS, which is one of the main actors in the field of education, is regarded as one of the factors contributing to the school’s efficiency and increasing teachers’ performance and commitment to schools (Maghee 2013; Menon and Reppa 2011; Metle 2001). Various education leaders and politicians in many countries make an effort to produce policies aimed at eliminating the negative factors influential on the teachers’ JS in schools.

Teachers’ Job Satisfaction

Within the context of the definitions in literature, job satisfaction is the perception level of employees about values regarding the job, wage, working conditions, promotion and improvement opportunities, as well as their colleagues and the organizational environment (Canbay 2007; Hongying 2007). Zembylas and Papanastasiou (2004) define the teachers’ JS as the positive, emotional situation created by the relationship between teachers’ expectations and their perception about their teaching role.

Although the relationship between teachers’ gender and JS has been investigated extensively, the results of many of the studies so far have been found inconsistent, contradictory and far from unanimous. Where some studies found women teachers more satisfied with their job, others indicated that the men teachers were more content (Crossman and Harris 2006; Ozcan 2013, Sumbul and Sajid 2014). Increase in the studies on teachers’ opinions about JS in schools witnessed recently in Turkey led to a necessity to draw a common conclusion by considering the number of samples and synthesizing the results of these studies. Aydin et al. (2012), Brierley (1998), Menon and Reppa (2011), and Tasdan and Tiryaki (2008) noted the need to synthesize the results of these studies on JS in that all have different results. Scanning the literature, it has been seen that there is not a sufficient number of studies dealing with teachers’ opinions about JS using the meta-analysis method. Within this context, this study will examine the effect sizes of JS perception and whether there is a difference between the effect sizes obtained through various variables ignored in primary researches.

Objectives

The aim of this study is to determine the effect of gender on teachers’ job satisfaction. To this end, the effect size of teachers’ perceptions and opinions regarding to this is determined. Also the variables of school type, publication type, and publication year, the region in which the research was carried out, teachers’ title, education level, and researcher’s gender are tested as moderator variables.
METHODOLOGY

In this section, the research model, data collection and data analysis are included.

Research Model

The meta-analysis method, which is one of the methods used for synthesizing the research results, constitutes this research’s model. The process including analysis, synthesis and interpretation of quantitative findings obtained from independent studies through advanced statistical techniques is called meta-analysis. The aim of meta-analysis is to combine the findings of various studies conducted at different times in different places on the same subject so as to reveal the facts about this subject and to achieve the most reliable fact in quantitative terms by increasing the number of samples (Aytac 2014; Cumming 2012).

Data Collection

MA theses and PhD dissertations on teachers’ perception and opinions about JS in Turkey are the basic data sources for this study. The keywords “job satisfaction/satisfied with job”, “professional satisfaction” and “job compliance” were used to find related material and researches in the National Thesis Archive of the Council of Higher Education. Following the browsing process, 59 of 82 studies on the subject of this study were found convenient for inclusion criteria. In choosing the studies to be included in this study, the following criteria were used:

(i) **Criterion 1:** Published or unpublished references: MA and PhD theses.
(ii) **Criterion 2:** Convenience of the research method of the study: the requirement for being an empirical study and use of tenure of office as an independent variable to obtain the effect size during the meta-analysis.
(iii) **Criterion 3:** Existence of sufficient numeric data: Sample size, mean, standard deviation, F value, t value, $\chi^2$ value, Kruskal Wallis value, Mann Whitney U data and p-value, were considered for male and female teacher groups to determine the effect sizes necessary for a meta-analysis.

Twenty-three studies were not included in the study on the grounds that they used different variables (managers, academic members) and they lacked the data necessary for a meta-analysis. The sample of this study is limited to 59 studies, and MA theses and PhD dissertations on this subject written in Turkey between the years 1999 and 2014.

Coding Protocol Reliability

A coding protocol, which includes the name, content and data of this study has been created. Compliance between Coder-1 and Coder-2 was found to be 89.5 percent. Cohen’s Kappa statistics was used to ensure the inter-rater reliability and it was found to be 0.93. This result indicated almost a perfect compliance between the raters (Card 2012).

Validity

The validity and reliability of the meta-analysis depends on the validity and reliability of the studies included in the research. Also, screening and including all related studies which meet the criteria of meta-analysis increases the validity of the study. As Decoster (2004) and Petitti (2000) pointed out, the combined effect size in meta-analysis are as valid as the validity of the studies included. It has been seen that, the thesis included in this study have been carried out with valid and reliable research instruments. In this context, it was determined that the validity of data collection instruments had been ensured in all of 59 studies included in the meta-analysis.

Data Analysis

During the analysis of data, one of the methods of meta-analysis compared groups (fixed and random-effects models). Group differences method was used. During this study, the effect sizes, variances and comparisons of the groups included in each study were measured through CMA ver. 2.2.064 [Comprehensive Meta-Analysis], and the Statistical Package Software for Meta-Analysis (Borenstein et al. 2009). This study includes female teachers as the sample group and male teachers as the control group. Thus, a positive status of the effect size is interpreted as being in favor of female teachers, while its negative status is interpreted as being in favor of male teachers.
RESULTS

The related data covered in the studies included in this study was analyzed so as to find an answer to the question of the study. Findings concerning the publication bias, descriptive statistics, forest plot, fixed effect model findings, homogeneity test, random effect model findings and moderator analysis findings obtained from these analyses are given below.

Publication Bias

In this study, publication bias was evaluated through two means: (a) Cone Dispersion Graph, (b) Orwin’s Fail-Safe N (Borenstein et al. 2009; Cooper et al. 2009).

As reflected in Figure 1, the majority of 59 studies that were included in this study are located on upper side of the figure and very close to the conjoined effect size. In this sense, this cone graphic is one of the indicators of the absence of a publication bias (Borenstein et al. 2009) in terms of the studies included in this study.

Orwin’s Fail-Safe N Evaluation was also conducted to test the publication bias. Orwin’s Fail-Safe N calculates the number of studies that are likely to be excluded from the meta-analysis (Borenstein et al. 2009). In the consequence of this analysis, Orwin’s Fail-Safe N was found to be 126. The necessary number of study for the average effect size found as 0.018 in the consequence of the meta-analysis to reach .01 (trivial) level, in other words, almost to zero effect size is 126. However, 59 studies, which were included in this study, are the total number of studies which meet the inclusion criteria and which are available among all the studies conducted on this subject in Turkey (qualitative, quantitative and theoretical). Impossibility to attain another 126 studies may be accepted as another indicator of the absence of publication bias in this meta-analysis.

In addition, Kendall’s Tau coefficient 0.33, which is used for determining whether there is a publication bias or not in statistical terms, was found as $p=0.48$. Since the fact that $p$-value does not result in a significant difference under this condition meant that $p$-value met the expectation to be higher than 0.05, the fact that there is no publication bias in this study was proved in statistical terms.

Non-conjoint Findings of Effect Size Analysis Based on Teachers’ Gender

The effect sizes of male and female teachers’ perception about JS, standard error and its upper and lower limits based on a reliability level of ninety-five percent are given in Table 1.

![Fig. 1. Cone dispersion graphic of the studies with effect size data on differences among teachers’ perceptions about JS in accordance with their gender](image-url)
<table>
<thead>
<tr>
<th>Research name</th>
<th>Effect size (d)</th>
<th>Standard error</th>
<th>Lower limit</th>
<th>Upper limit</th>
<th>Z-value</th>
<th>p-value</th>
<th>Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>...</td>
<td>...</td>
<td>...</td>
<td>...</td>
<td>...</td>
<td>...</td>
<td>...</td>
<td>Male</td>
</tr>
<tr>
<td>...</td>
<td>...</td>
<td>...</td>
<td>...</td>
<td>...</td>
<td>...</td>
<td>...</td>
<td>Female</td>
</tr>
</tbody>
</table>

Table 1: Effect sizes of teachers’ opinions about JS based on their gender.
Fig. 2. Forest plot of the effect sizes of teachers' perception about JS based on gender.
In accordance with Table 1, the standardized mean difference (SMD=SOF) based on gender in these 59 studies, varies from -0.346 in favor of male teachers to 0.683 in favor of female teachers. A statistically significant difference (p<0.05) was found in 19 studies while no significant difference was determined in 40 studies.

**Forest Plot of the Studies Including Data on Gender**

When Figure 2 is examined, a difference higher than zero in favor of male teachers is observed in accordance with fixed effect model.

**Findings of Effect Size Meta-analysis of Teachers’ Gender Conjoined in Accordance with Fixed and Random Effect Models**

The average effect size of the perception of male and female teachers about JS in schools conjoined in accordance with fixed and random effect models (without subtracting the outliers), standard error and its upper and lower limits based on a confidence interval of ninety five percent are given in Table 2.

In Table 2, the average effect size value obtained from the effect size values of the studies included in this study based on gender variable in accordance with fixed effect model was calculated as ES=-0.018 whereas the standard error of the average effect size, the upper limit and lower limit of confidence interval of the average effect size was calculated as SE=0.014; 0.009; and -0.045, respectively. Data obtained from 59 studies included in this study based on the calculations showed that male teachers have a more positive opinion about JS than their female counterparts, in accordance with fixed effect model. The classification of Thalheimer and Cook (2002) shows that there is an insignificant difference (-0.15-0.15). When statistical significance is calculated according to Z test, Z=-1.308. The obtained result was found to have a statistical significance with p=0.005.

**Homogeneity Test and Q and I^2 Statistics**

Homogeneity test, in other words, Q statistics, was calculated as Q=275.527. 58 degrees of freedom at a significance level of ninety five percent from x^2 table was found to be 77.2. The hypothesis on the absence of homogeneity in terms of the distribution of effect sizes was rejected in the fixed effect model because Q-statistics value (Q=275.527) exceeded the critical chi-square distribution value (x^2 0.95 =77.2) with a degree of freedom of 58. Thus, effect sizes distribution was determined to be heterogeneous in accordance with fixed effect model.

I^2, which was developed as a supplement to Q statistics, put forth a clearer result concerning heterogeneity. I^2 shows the rate of total variance about the effect size. As opposed to Q-statistics, I^2 statistics are not affected by number of studies. During the interpretation of I^2, twenty-five percent indicates a low-level heterogeneity, fifty percent indicates a mid-level heterogeneity and seventy five percent shows a high-level heterogeneity (Cooper et al. 2009: 263). Since a level of heterogeneity close to a high-level heterogeneity was found between the studies in the consequence of the homogeneity test for the purpose of gender variable (Q and I^2) the model to be used for conjoining process was transformed into a random model.

**Findings of the Meta-analysis on the Effect Sizes of Teachers’ Gender in accordance with Random Effect Model**

Through the data obtained from 59 studies included in this study based on gender variable in accordance with random effect model, the standard error of the average effect size, the upper

<table>
<thead>
<tr>
<th>Table 2: Findings of effect size meta-analysis based on gender variable conjoined in accordance with the fixed effect model and random effect model and homogeneity test</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Model</strong></td>
</tr>
<tr>
<td>-----------</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Fixed effect</td>
</tr>
<tr>
<td>Random effect</td>
</tr>
</tbody>
</table>
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limit and lower limit of confidence interval of the average effect size were calculated as SE=0.022; 0.062; and -0.025, respectively as d=0.018 whereas the standard error of the average effect size, the upper limit and lower limit of the confidence interval of ninety-five percent were calculated as SE=0.032; 0.089; and -0.036, respectively whereas the effect size value was calculated as ES = 0.026. Thus, teachers’ perception about JS was determined to be more positive in favor of female teachers than their male counterparts (Table 2). In accordance with the classification of Thalheimer and Cook (2002), this is an extremely low-level effect size (-0.15-0.15. When statistical significance is calculated according to Z test, Z=0.821. The result obtained, that is to say, was determined to have statistical significance with p=0.034.

Results of Moderator Analysis in Terms of Gender Variable

The results of the moderator analysis put forth the reasons for this heterogeneity are given in Table 3.

In the consequence of the moderator analysis conducted, the effect sizes were found to vary depending on the publication type (p=0.000), school type (p=0.034), education level (p=0.013), the region of the study (p=0.000), teachers’ title (p=0.000), and researcher’s gender (p=0.007). In terms of publication type, results of the MA thesis were found to be in favor of female teachers (d=0.018), while the results of PhD dissertation were found to be in favor of male teachers (d=-0.137). Within the context of the moderator effect of the researcher’s gender, it may be said that the direction of teachers’ JS perception

Table 3: Categorical moderator results about the effect of gender on JS

<table>
<thead>
<tr>
<th>Moderator</th>
<th>k</th>
<th>d</th>
<th>SE</th>
<th>95% CI</th>
<th>Q</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Education Level</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-school</td>
<td>2</td>
<td>0.017</td>
<td>0.099</td>
<td>[-0.177; 0.210]</td>
<td>59.6412</td>
</tr>
<tr>
<td>Primary</td>
<td>28</td>
<td>-0.052</td>
<td>0.018</td>
<td>[-0.087; -0.016]</td>
<td></td>
</tr>
<tr>
<td>Secondary</td>
<td>14</td>
<td>-0.059</td>
<td>0.033</td>
<td>[-0.125; 0.006]</td>
<td></td>
</tr>
<tr>
<td>Primary/Secondary</td>
<td>11</td>
<td>0.255</td>
<td>0.039</td>
<td>[-0.178; 0.332]</td>
<td></td>
</tr>
<tr>
<td>Counseling and research center</td>
<td>2</td>
<td>0.011</td>
<td>0.083</td>
<td>[-0.151; 0.174]</td>
<td></td>
</tr>
<tr>
<td>Course</td>
<td></td>
<td>-0.153</td>
<td>0.055</td>
<td>[-0.261; -0.045]</td>
<td></td>
</tr>
<tr>
<td><strong>School Type</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private</td>
<td>2</td>
<td>0.153</td>
<td>0.055</td>
<td>[-0.261; -0.045]</td>
<td>6.773</td>
</tr>
<tr>
<td>Public</td>
<td>41</td>
<td>-0.015</td>
<td>0.017</td>
<td>[-0.048; 0.018]</td>
<td></td>
</tr>
<tr>
<td>Private-Public</td>
<td>16</td>
<td>0.006</td>
<td>0.027</td>
<td>[-0.047; 0.058]</td>
<td></td>
</tr>
<tr>
<td><strong>Publication Type</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MA</td>
<td>55</td>
<td>0.018</td>
<td>0.016</td>
<td>[-0.013; 0.049]</td>
<td>22.121</td>
</tr>
<tr>
<td>PhD</td>
<td>4</td>
<td>-0.137</td>
<td>0.029</td>
<td>[-0.194; -0.081]</td>
<td></td>
</tr>
<tr>
<td><strong>Teacher’s Title</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grade</td>
<td>29</td>
<td>-0.045</td>
<td>0.017</td>
<td>[-0.078; -0.011]</td>
<td>49.057</td>
</tr>
<tr>
<td>Branch</td>
<td>19</td>
<td>-0.069</td>
<td>0.029</td>
<td>[-0.126; 0.013]</td>
<td></td>
</tr>
<tr>
<td>Grade-Branch</td>
<td>9</td>
<td>0.272</td>
<td>0.044</td>
<td>[0.185; 0.358]</td>
<td></td>
</tr>
<tr>
<td>Counselor</td>
<td>2</td>
<td>0.065</td>
<td>0.155</td>
<td>[-0.238; 0.369]</td>
<td></td>
</tr>
<tr>
<td><strong>Region of the Study</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eastern Anatolia</td>
<td>4</td>
<td>0.044</td>
<td>0.064</td>
<td>[-0.081; 0.170]</td>
<td>57.767</td>
</tr>
<tr>
<td>Aegean</td>
<td>10</td>
<td>0.103</td>
<td>0.031</td>
<td>[-0.043; 0.163]</td>
<td></td>
</tr>
<tr>
<td>Southeastern</td>
<td>4</td>
<td>-0.245</td>
<td>0.038</td>
<td>[-0.319; 0.170]</td>
<td></td>
</tr>
<tr>
<td>Central Anatolia</td>
<td>15</td>
<td>-0.071</td>
<td>0.032</td>
<td>[-0.135; 0.008]</td>
<td></td>
</tr>
<tr>
<td>Black Sea</td>
<td>6</td>
<td>-0.020</td>
<td>0.037</td>
<td>[-0.092; 0.053]</td>
<td></td>
</tr>
<tr>
<td>Marmara</td>
<td>18</td>
<td>0.028</td>
<td>0.028</td>
<td>[-0.092; 0.053]</td>
<td></td>
</tr>
<tr>
<td>Turkey (in general)</td>
<td>2</td>
<td>0.008</td>
<td>0.066</td>
<td>[-0.121; 0.138]</td>
<td></td>
</tr>
<tr>
<td><strong>Researcher’s Gender</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>32</td>
<td>-0.086</td>
<td>0.019</td>
<td>[-0.124; -0.048]</td>
<td>25.334</td>
</tr>
<tr>
<td>Female</td>
<td>27</td>
<td>0.054</td>
<td>0.020</td>
<td>[0.015; 0.093]</td>
<td></td>
</tr>
</tbody>
</table>

Note: k=number of studies, d=Cohen’s d, SE= Standard Error, CI= Confidence Interval, Q=heterogeneity among the studies.
Comparison analyses were made for those studies whose number of subgroups is 2 and more.

*p<.05
changes in favor of male teachers when the researcher is male \((d=-0.086)\), whereas it changes in favor of female teachers when the researcher is female \((d=0.054)\).

As reflected in Figure 3, an increase tendency in favor of female teachers in gender difference by years in terms of the effect sizes of the studies is observed.

**DISCUSSION**

In this study, 59 effect sizes related to 59 studies constituting a sample of 22,253 people were calculated. In the consequence of the conjoining process in the Fixed Effect Model, a statistically significant effect size of -0.018 in favor of male teachers was determined. This result may be regarded as low and insignificant in accordance with the classification of Thalheimer and Cook (2002). As a result of the conjoining process in Random Effect Model, a statistically significant effect size of 0.026 in favor of female teachers was found. When these results are evaluated together, they show that there is a difference, which may be regarded as insignificant among teachers’ perceptions about JS in terms of gender variable as well as of social sciences.

In studies on teachers’ JS, gender is a frequently investigated variable. The investigation of this variable as a determinant of JS is a sensitive issue. This is because there is a substantial increase in the number of women joining the labor force in recent times, and this has generated considerable interest for the need to investigate the influence of gender on JS (Ali and Dahie 2015; Saiti and Papadopoulos 2015).

Results of the studies of Aydin et al. (2012), Boga (2010), Crossman and Harris 2006, Demiresoy (2007), Cankaya (2010), Kartal (2006), Liping and Qiaoxiang (2004), Liu and Ramsey (2008), Menon and Reppa (2011), Ozcan (2013), Sumbul and Sajid (2014) are in parallel with the results of this study indicating that there is low-level difference in favor of male teachers in terms of gender variable in accordance with fixed effect model.

Different results are observed from researches including a comparison of teachers’ perception about JS based on their gender. In various researches conducted to determine effect of gender on teachers’ JS (Aydin et al. 2012; Chen and Sun 1994; Demirtas 2010; De Nobile and McCormick 2008; Magee 2013) female teachers were found to have more positive opinions and perceptions than their male counterparts. Klecker and Loadman (1999), in their study, suggested that female teachers’ JS level is at a higher level in terms of their communication with their col-
leagues and of education whereas Koustelios’s study (2001) suggested the same is true in terms of working conditions. In some researches (Crossman and Harris 2006; Joo et al. 2013; Mertler 2002) it was observed that, in primary and secondary schools, male teachers have more JS than their female counterparts even if it was at a low level. In contrast, some studies showed that teachers’ gender does not have a determining role in their perception about JS (Carlson and Mellor 2004; Crossman and Harris 2006; Mason 1995).

In a number of studies, (Borg and Falzon 1989; Demirtas 2010; Gunbayi 2001; De Nobile and McCormick, 2008) female teachers were observed to have more JS than their male counterparts. Studies conducted in Europe in this field showed that female teachers have more JS even though they are disadvantaged in terms of their expectations about income, recruitment, resignment, promotion and career opportunities (Aydin et al. 2012; Klassen and Chiu 2010; Saiti and Papadopoulos 2015). The statistically significant effect size of 0.026 in favor of female teachers obtained in the consequence of the conjoining process followed in accordance with random effect model supports the results of these studies. Accordingly, the fact that female teachers’ JS level is higher than their male counterparts even if it is at an insignificant level is in compliance with the assumption that teaching is perceived as a profession which is more convenient for female employees and for that reason their JS may naturally be higher than their male counterparts (Menon and Reppa 2011; Magee 2013).

Findings of the study by Crossman and Harris (2006) showing that female teachers who work for private schools have a high level JS are in compliance with the results of this study, whereas findings obtained from the study of Tasdan and Tiryaki (2008) showing that JS perception of male teachers who work for private schools is higher than that of their female counterparts contradict the findings of this study.

The reason why teaching is perceived as more a profession suitable for female employees and of girls’ preference of teaching as a profession more frequently may be the fact that teaching is conducted within a certain period of the year and within certain working hours, which enables them to have more time and opportunity to deal with their private life and children and provides them with independence in socio-economic terms. It is suggested that a regular job under state insurance in Turkey, as well as respect of the students and their parents for teachers may be other reasons for the high level JS of female teachers (Turani 2007).

Within the context of the results of this study and in terms of the year in which the research is conducted, the increase in female teachers’ JS witnessed in recent years may be a result of the fact that it is preferred more as a profession. It may also be a consequence of the improvements in working conditions and promotion expectations. In addition, the advantages of teaching as a profession such as its contribution to female teachers’ self-competence, to their economic independence and the possibility to have more time during which they could spare for their family and children may be regarded as other influential factors. As Erturk (2013) suggests, the existence of the perception that teaching is more suitable for female employees as a profession and of the interpretation that a more protective attitude towards women is adopted in schools in Turkey may be said to support the results of this study.

CONCLUSION

In the results of this meta-analysis, there is a difference, which may be regarded as insignificant among teachers’ perceptions about JS in terms of the gender variable. As a consequence of the moderator analysis conducted, the effect sizes of the studies were determined to change based on the publication type, the school type, education level, the region in which the research was conducted, the teacher’s title and the researcher’s gender.

RECOMMENDATIONS

In the light of the results of this study, further studies should be conducted to reveal and discuss the reasons for the fact that female teachers have higher JS perception than their male counterparts when teachers’ perception about JS is examined in terms of gender variable even if it is at a low level. Other meta-analyses may be made through predicting variables such as marital status, school type and seniority other than gender.
REFERENCES

Those references marked with the asterisk (*) indicate those studies included in the meta-analysis.


Meziroglu M 2005. Measurement of Primary School Teachers and Junior High School Teachers’ Job Sat-


