

# **TEACHERS' JOB SATISFACTION: MULTILEVEL ANALYSES OF TEACHER, SCHOOL, AND PRINCIPAL EFFECTS**

**Umut Birkan Özkan<sup>1</sup>**

*National Defence University, Turkey*

**Ertan Akgenç**

*National Defence University, Turkey*

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## **Abstract**

Teachers' job satisfaction (TJS) can be defined as the emotional reactions of teachers to their jobs or teaching roles. In this study, it is aimed to investigate the determinants of teachers, principal and school-based factors on job satisfaction of teachers. In this study, which is based on relational survey model, secondary data obtained from TALIS-2018 evaluation were analyzed with Multilevel Structural Equation Modeling. 196 principals and 3952 teachers from Turkey who participated in TALIS-2018 survey constitute the sample of the research. According to the results of the study, teachers' age, gender, career preferences and participation in professional development activities, the locations of the schools they work in and the type of school (state / private) and the gender of the school principals were found to be determinants of job satisfaction. Teachers' work experience, having foreign students in their classes, school principal's age and work experience did not affect teachers' job satisfaction.

**Keywords:** teacher job satisfaction, multilevel analysis, multilevel structural equation modelling, principal effects, school effects, TALIS

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<sup>1</sup> *Correspondence:* uozkan@msu.edu.tr

## **Introduction**

21st century skills have become sparks that trigger changes in educational policies and practices, and schools should provide the knowledge and skills that young people need to succeed in the 21st century. There is a widespread consensus that teachers are the main factor contributing to the acquisition of these knowledge and skills. Job satisfaction of teachers has a significant importance for having positive teaching styles and it enables and supports meaningful teaching and learning (Parveen & Bano, 2019). Teachers with high job satisfaction are more likely to be eager to improve their teaching efforts and skills (Knox & Anfara Jr., 2013). Job satisfaction of teachers plays an important role in students' learning (Ainley & Carstens, 2018; Michaelowa & Wittmann, 2007; Ostroff, 1992), attitudes towards students' motivation and beliefs (Salehi et al., 2015), and the continuation of teachers' profession (Bogler 2002; Houchins et al., 2004; Ingersoll, 2001). In addition, teachers' job satisfaction has come to the forefront in recent years with the effect of addressing this issue in international education evaluation studies and efforts are being made to increase teachers' job satisfaction. In order for these efforts to give positive results, it is necessary to determine which factors may affect teacher job satisfaction. The fact that teachers are one of the occupational groups that play an important role in the future of the countries makes it important to determine the factors that affect teachers' job.

Regarding the facts that Turkey has a young population and accepts the greatest number of refugees in the world and provides education for them, it could be suggested that Turkey is one of the most ideal laboratories for research of education. TALIS-2018 (Teaching and Learning International Survey), which is based on the data of Turkey, focuses on examining components of the framework that job satisfaction displays in accordance with the requirements of teaching profession (Torres, 2019), working on the multi-cultural country sample, like Turkey. Therefore, this study, which takes into consideration various working conditions originating from teachers, principals and schools, tries to identify the most prominent factors that determine teachers' job satisfaction. Although there are many studies about the relationship between working conditions and job satisfaction in other professions (Tang, 2020), studies related to teaching profession are relatively rare (Ferguson et al., 2012). Taking into account the variables of teachers, principals and schools, this study also tries to fill this gap in the literature with evidence obtained from the secondary analysis of TALIS data.

Three research questions guided this study:

- (1) Are there any significant and direct relationships between the teacher's age, gender, career choice, work experience, participation in professional development activities, the presence of foreign students in the classroom and the job satisfaction of the teacher?
- (2) Are there any significant and direct relationships between the school principal's age, gender, work experience and teacher's job satisfaction?
- (3) Are there significant and direct relationships between the school's location and type and the teacher's job satisfaction.

## **Theoretical Framework**

### ***Teachers' Job Satisfaction***

Job satisfaction is generally seen as emotional states caused by employees' evaluating their work lives and can be defined as the degree of liking their jobs or being happy with them. (Spector, 1997; Sun & Xia, 2018; Won & Chang, 2019). Job satisfaction is conceptualized as a dynamic structure determined by the interaction among many factors. (Yuh & Choi, 2017). Job satisfaction, which expresses the feelings perceived by employees

against their work, has both rational and emotional elements. (Borah, 2019). TJS can be perceived as emotional reactions they give to their jobs or teacher roles. (Crisci et al., 2019; Skaalvik & Skaalvik, 2010). Job satisfaction is a multidimensional structure due to the nature of teaching profession (Torres, 2019). Malinen and Savolainen (2016) stated that the research shows that teachers' job satisfaction is related to social and organizational factors, cognitive factors and affective factors. According to Sharma and Jyoti (2006), factors that affect a teacher's job satisfaction include internal and external factors, demographic factors, and individual characteristics of the teacher and the school. Teachers' job satisfaction includes external factors such as school and principal characteristics and internal factors such as teacher's own characteristics.

### ***Teacher-Level Effects on TJS***

In a study by Kinman et al. (2011) involving six hundred and twenty-eight teachers working in secondary schools in the UK, teaching experience was found to be positively related to job satisfaction. As a result of the analysis conducted by Van Maele and Van Houtte (2012) with the data of 2091 teachers in 80 secondary schools in Belgium, job satisfaction was negatively related to their seniority. In a study conducted with 135 teachers in Taiwan, it was concluded that the level of education is an important determinant of job satisfaction (Cheng & Ren 2010). According to Bevendum (2000), in order to achieve job satisfaction; decent leadership, improvement in relative strength and working standards, righteous rewarding and ample authority are of great importance.

**Age Effect on TJS.** A study in higher education was conducted by Saner and Eyupoglu (2012) in order to determine the age and job satisfaction. MSQ (Minnesota Satisfaction Questionnaire) was applied to academics from five universities in North Cyprus. It is mentioned in the article that how one feels about the nature of his/her job's tasks is related to intrinsic satisfaction while how s/he feels about the external factors such as the job's environment is related to extrinsic satisfaction. Though there is no significant relationship between intrinsic job satisfaction and age; there is a major variety in extrinsic job satisfaction among academics in regard of age. The result of the study shows that older educators are, in general, more satisfied than the younger ones.

The findings of another study (Clark et al., 1996) shows that until an educator reaches the age of approximately 31, job satisfaction decreases and only after that age it increases. As for payment, what teachers care is rank and their ages rather than their genders and devoted holidays. In addition; as teachers get older, their satisfaction derived from their occupation increases (Guo & Wang, 2017).

Yucel and Bektas (2012) suggest in their study that young teachers feel more emotionally connected to their jobs, they embrace the institution's problems and they are likely to remain in the institution when their job satisfaction level is either high or low. Moderate levels of job satisfaction are seen in older and self-confident teachers.

Shrestha (2019) conducted a study with 345 teachers and she concluded that older teachers display more job satisfaction, hence, they have more commitment to the job, leading the way to high performance. Masath (2015) explored the job satisfaction of secondary school teachers regarding some age groups. It is stated in the research that there is an increasing dissatisfaction of teaching profession among young teachers. In order to find solutions to the problem, it is suggested that orientation activities should be realised and that teacher-educators should form organisations to prepare young teachers to the profession. The same case is valid for Albania. According to a study (Rapti & Karaj, 2012), younger teachers are more dissatisfied.

Newman (1978) conducted a research with ten elderly teachers. Those teachers stated some differences among themselves and some younger teachers. They taught that younger teachers were more energetic, were more willing, more informal and were closer to the attitude of mind of the students. In the elderly teachers' opinion, they were also professionally full of zeal. However, some elderly teachers taught that novice teachers were incapable. Newman stated that differences among teachers were related to the composition of teaching dynamism rather than a change in individual educators over time.

**Gender Effect on TJS.** Using the data of 2202 teachers from New Brunswick Elementary School Study by Ma and MacMillan (1999), the study showed that gender and professional seniority were important in job satisfaction. According to this study, female teachers were more satisfied than their male counterparts. Seniority showed a statistically significant but negative effect on job satisfaction of teachers. Teachers who stayed longer in the teaching profession were less satisfied with their professional roles.

A study of 362 teachers from 57 primary schools in Serbia showed that female teachers had higher job satisfaction (Gligorović et al., 2014). Females in Indian education sector are found to be more satisfied (Kumari et al., 2014). Another study (Ogedengbe et al., 2018) came out with a similar conclusion. Mocheche et al. (2017) point out that, female secondary school teachers in Kenya have higher satisfaction levels than males. The analysis of a T-test conducted in Serbian primary schools also shows results in favor of female teachers (Gligorovic et al., 2014). In a study conducted in Egyptian primary schools, male teachers were reported to be more satisfied with their jobs (Fattah, 2010).

When a multivariate statistical analysis of a research concerning university teachers in UK is examined (Oshagbemi, 2000), it is seen that merely gender does not affect occupational satisfaction yet under certain ranks, gender affects occupational satisfaction of university teachers and within those ranks, females were found to be more satisfied. It is found out in primary schools of Bangladesh that female teachers start their profession more eagerly yet both genders are dissatisfied with their jobs. Male teachers in Bangladesh attach importance to having a guaranteed, prestigious job as well as having a social status (Tasnim, 2006).

According to a study conducted in Cyprus (Menon & Reppa, 2011), female teachers in Cyprus and in many other countries do not report more satisfaction in occupation than male teachers do. Menon and Reppa (2011) state that women are reported to have little or no confidence, contemplating that they need to have male behaviours and male style of management in order to move forward in their careers.

Taking Visakhapatnam city as the base, results of Susmitha and Raghavaya's (2018) study show that female teachers were more satisfied with their jobs than males. Bentea and Anghelache (2012) found out in their study that the hypothesis 'Gender affects job satisfaction' is false. Akhtar et al. (2010) found that female teachers had more job satisfaction than male teachers.

**Career Effect on TJS.** According to a study (Guo & Wang, 2017), for teachers' satisfaction; organization system, reputation, working conditions, career development and salary are the important factors. It is also found out in the study that male teachers are more satisfied with career development than females. A study conducted with Australian teachers showed that the minority group was the teachers who never taught of leaving or changing their jobs. It was recommended that positive relationships should be boosted, job security should be provided, teachers' needs should be cared about and different alternatives in teaching should be offered (Howes & Delahunty, 2015).

There was a study of UCL Institute of Education, conducted among 22 countries and according to the answers of the four questions that were asked, the most dissatisfied teachers were in England. The questions covered the issues of the satisfaction that teachers had from their professions, whether they could recommend the profession to others, whether they would like to remain in the profession. The causes of leaving the profession were stated to be heavy workload, low pay and stable curriculum (Busby, 2018). Tickle's (2018) writing sheds light on the hardship of the teaching profession. She mentions some teachers who had to get up very early in the mornings to do some paperwork, give lessons and arrive at home in the late evening; who quit job after seventeen years because of overstrain and who nearly had no chance to see and spare time for their own children. It is stated that according to National Education Union Survey, only 20% of teachers did not think of quitting profession. In relation, Tickle gives an example of a teacher by stating that because of high stress levels, the teacher decided to change profession and work in hotel business, never thinking of returning to teaching.

**Job Experience Effect on TJS.** When the job experience is considered, it is stated that teachers working for a long time are happier with their jobs (Ogedengbe et al., 2018). It was found that duration of teachers' working years did not have any effect on job satisfaction (Fattah, 2010). Tye and O'Brien (2002) state in their work that even though the longer one continues teaching the harder it gets to quit the profession, teachers feel battered. It is also mentioned that newly-joining teachers affect the motivation of teachers who are already in the profession for a long time.

Bennett et al. (2013) discovered that both new and experienced teachers had joy of teaching. Experienced teachers attributed the reason of their remaining the job to personal and spiritual aspects. They stated that they liked shaping the characteristics of children and that they were meant to sustain the job. In addition, teachers who left the profession explained the reasons as such: untold workload, state and meeting requirements, insufficient time to allocate for the children. According to the research, both novice and experienced teachers think that managerial support and caring for children are of great importance to staying in the profession.

Bivona (2002) states in her research that teachers who have at least ten years of teaching experience are more optimistic towards teaching. It is also stated that experienced teachers majored in education while only some of the novice teachers did so as they thought majoring is a loss of time. Furthermore, it was found out that teacher training and experience decrease teachers' stress levels, enable them to feel adequate.

#### Professional development effect on TJS

Teacher Professional development is defined as structured learning related to one's profession, which changes teacher practices to make student learning better (Darling-Hammond et al., 2017). A study about professional support and its effects on teachers' job satisfaction indicates that professional support enhances teachers' sense of belonging to the profession (Singh & Billingsley, 1998). The study also indicates that if principals encourage shared goals, values and professional development; an environment of unity and supportive learning is formed.

Beaudry (2009) states that Maslow's hierarchy of needs should be kept in mind if a plan aiming to boost teacher satisfaction with professional development is to be implemented. Bentea and Anghelache (2012) discovered that teachers are more satisfied with their jobs if they achieve a professional position with the help of a regular professional training which enables them to advance, get promotion, get recognised and have higher amounts of salary.

In the study of Conley et al. (1998), what mattered for experienced teachers for their job satisfaction was the promotion process whereas it was the evaluation process of the principal for experienced teachers who did not participate in professional development activities. Nasser and Shabti (2010) found out in their study that within different participants, there were similar levels of satisfaction with the professional development activities. Those participants' opinions differed in terms of motivation and perspective of participating in professional development activities.

According to a study conducted in Turkey (Bayar & Kosterelioglu, 2014), though a number of teachers thought that professional development activities are of great source to improve, most teachers reported dissatisfaction with those activities and did not intend to participate. The researchers discovered the reasons for such a reluctance, which are; old and traditional characteristics of the activities, lack of teacher involvement in the activities, these activities' falling short of teacher needs, irrelevance to real classroom context and the low quality of the instructors of the activities.

**Foreign Students Effect on TJS.** Alismail (2016) states that pedagogy of racially mixed classrooms have three dimensions which are; liberal, critical and conservative. Conservative dimension regards those classrooms as an integration of students into society. Liberal dimension praises diversity while critical dimension highlights social disparity over multicultural classrooms. Alismail (2016) states that many teachers request more training on multicultural classes and he suggests that a well-designed multicultural training is essential for teachers.

### ***TJS Principal-Level Effects on TJS***

**Effect of Principals' Age on TJS.** Eckman's (2004) study indicated that male high school principals had remained in the profession for a longer time than female principals did despite the fact that male principals had less teaching experience and that they were the same age as their female counterparts. It is also stated that as females also have a role of 'mother' or 'wife', they are reported to become principals when they get older. Sawati et al. (2013) found out in their study that the leadership style does not have an effect on principals' age.

**Effect of Principals' Gender on TJS.** Eckman (2004) contemplates that male principals' remaining in the profession longer is because of several factors one of which is 'perception'. By this, it is meant that there are perceptions about professions related to gender. For instance, while nursing, teaching etc. are regarded most suitable for females; administrative roles are regarded most suitable for males. Another factor could be, according to Eckman (2004), is societies' expected roles for both men and women.

Ballou and Podgursky (1995) found out that female principals get higher evaluations than male principals. In addition to that, female teachers regard female principals as more assistive. The results of the study show that male teachers give higher rates to male principals whereas female teachers perceive no difference between male and female principals.

Ching Shum and Cheong Cheng (1997) state that as males and females have different styles of management and taking the lead; leadership training prepared for females may be a solution. Wangai (2015) found out in his study that according to the determined leadership behaviours, male principals did better than their female counterparts.

**Effect of Principals' Job Experience on TJS.** Ballou and Podgursky (1995) state that despite the fact that principals who have more than 15 years of experience are supported more by their faculties, most states regard a few years' of experience enough.

Shen et al. (2012) stated that a principal with a prior experience as a department's head leads to low teacher job satisfaction whereas a principal with a prior experience as a sports coach or director leads to higher teacher job satisfaction. In addition, it was found that school process was more significant than principals' education and experience. Sawati et al. (2013) found out in their study that there is no relationship between principals' leadership styles and experience.

### ***School-Level Effects on TJS***

**Effect of School Location on TJS.** Wang et al. (2017) stated in their study that job satisfaction and involvement of teachers of rural are higher than those of urban. Considering the factors such as psycho-social, economic etc., urban university teachers were found to be more satisfied in the study of Showkat et al. (2013). According to the study of Trentham and Schafer (1985), teachers in rural areas are more satisfied than teachers in urban areas in terms of ethics and morality.

Derlin and Schneider (1994) found out that urban teacher satisfaction is related to the teachers' aims of providing their students with quality education whereas suburban teacher satisfaction is related to learning about new teaching techniques, playing a part in resolutions.

**Effect of School Type on TJS.** Torres (2019) used a set of data from the TALIS-2013 to investigate the relationship between shared leadership, professional collaboration, and teachers' job satisfaction in US schools. In this research, job satisfaction of teachers was examined through two types of schools: state and private. As a result of the research, it was observed that the difference of school type had no effect on teachers' job satisfaction.

The study of Susmitha and Raghavaya (2018) revealed the fact that teachers working in public schools are happier with their jobs compared to teachers working in private schools, which is because private school teachers feel more insecure, less independent and have more problems with their payments provided by the institutions they work for. The findings of Kapa and Gimbert's (2017) study showed how school demography can affect teachers' satisfaction. School size and student population were found to be effective on job satisfaction. Ahmed's (2014) study is also in line with the former study, illustrating that the total occupational satisfaction of public school teachers is higher than private school teachers.

Akhtar et al. (2010) investigated a comparative study of job satisfaction among state and private school teachers. In the study, five state and five private schools were determined from Lahore region and 150 teachers were randomly selected from these schools. They applied a 5-point Likert-type 25-item questionnaire to the selected teachers. As a result, they made it clear that teachers in public schools were more satisfied than teachers in private schools.

Tasdan and Tiryaki (2008), applied the 'Job Satisfaction Scale of Education Manager' to 151 teachers in total from 12 schools, 6 of which were public schools and 6 of which were private schools, which were affiliated to the 'Trabzon National Education Directorate'. The total scores of the private and public school teachers who participated in the study on the job satisfaction scale were examined and a significant difference was observed according to the type of school the teachers worked. As a result, it is stated that job satisfaction level of teachers working in private school is higher than teachers working in public school.

Papanastasiou and Zembylas (2005) compared differences in job satisfaction between private and public kindergarten teachers in Cyprus. In addition, motivation factors that

affect job satisfaction of teachers and selection of teaching profession, factors of working conditions of educational institutions and associations were discussed. As a result, they found that private kindergarten teachers had less job satisfaction because the factors such as working hours, salary amounts, holiday periods, working environments were in worse conditions than state kindergarten teachers'.

### ***The Teaching and Learning International Survey (TALIS)***

TALIS is a large-scale teacher, school leader and learning environment survey conducted in 2008, 2013 and 2018 (Ainley & Carstens, 2018). TALIS-2018, in which the level of professionalism in teaching and how relevant and interesting teachers find their professions are examined, the knowledge and skills needed to teach, perceived prestige of the profession, career-oriented, collaborative culture among teachers and the levels of professional responsibility and autonomy of teachers and school leaders were analyzed (OECD, 2019).

Benefiting from the data of TALIS-2018, in our study we focus on the factors that are influential in job satisfaction of teachers in Turkey. Turkey participated in TALIS, the study which is about school leaders, the work conditions of teachers at schools and their education environment, for the first time in 2008 and participated again for the second time in 2018.

### **Method**

In this study, secondary data were analyzed from TALIS-2018 evaluation. It can be said that the analysis of the secondary data is a research method that applies the same basic research principles as the studies using the primary data and has some steps to be followed (Johnston, 2017). While determining the method of this research, attention was paid to the appropriateness of the sample to the research question, to include teacher job satisfaction in the analyses together with the school principals, and to ensure the adequacy of the program used to obtain unbiased findings after the analysis of the data.

### ***Sample***

The population size of the participating teachers in the TALIS was selected by using stratified two-stage cluster sample design method in proportion to the sample size (Martin et al., 2016). In the present study, 196 principals and 3952 teachers who represent the schools of basic education in the second stage or at secondary school level, designated by the International Education Classification Standard (International Standard Classification of Education, ISCED), participating from Turkey to TALIS-2018 survey, form the sample of the study (OECD, 2019). The data in the current study, using secondary data, were accessed through the OECD website (As of July 15, 2019, the OECD listed on its website <http://www.oecd.org/education/talis/>)

### ***Data Collection***

Turkey participated in TALIS research, which is held every five years, for the first time in 2008 and for the second time in 2018. Arranged by the OECD, TALIS is the largest international survey that asks teachers and school leaders about working conditions and learning environments. More than 107,000 teachers at the national level, 200 schools per country, 20 teachers per school and a school leader, responded to the survey (OECD, 2019). Research questions or variables of studies using secondary data should represent variables derived from primary data (Heaton, 2008; Long-Sutehall et al., 2011). In the present study,



as the first step of data collection, within-group and between-group variables were determined from teacher and principal questionnaire. In the second step, the variables that will determine the results to be obtained in accordance with the purpose of the research were selected from the questionnaire of teachers and principals. In the last step, these data were obtained from both questionnaires to explain the job satisfaction of teachers and divided into two levels within the group and included in the analysis.

### **Data Analysis**

In large scale evaluation studies such as TALIS, PISA, TIMSS, the data are complex and hierarchical. Structural Equation Modeling (SEM) is widely used for analyzing or resolving this data structure. SEM is a comprehensive statistical analysis method for testing hypotheses about the relationships between latent and observed variables (Hoyle, 1995). In the theoretical model of structural equality developed by Jöreskog, the structural part connects the latent variables simultaneously, and the measurement model part expresses the latent variables with the observed variables (Kaplan, 2008). SEM is a multivariate statistical analysis that is used to analyze data based on cause-effect relationships and which is widespread in social, behavioral and commercial research and which measures the causality on complex data structure. (Alkis, 2016; Barrett, 2007; Cha et al., 2017).

Multilevel Structural Equation Modeling (MSEM) is used since SEM analysis is insufficient for single factor data structures in multilevel cases. MSEM analyzes the variables simultaneously within group and between groups and analyzes them with the help of common covariance matrix (Muthén & Muthén, 1998; Schreiber, 2008). MSEM is the analysis technique used for the analysis of models with complex data sets in social sciences, behavioral sciences, international research (with comparative surveys) (Davidov et al., 2012; Holtmann et al., 2016; Hox et al., 2012; Peugh & Enders, 2010). In short, MSEM is a multivariate statistical method for clustered and complex data. Multi-level structural equation modeling is expressed with the equations of;

Within group (Level 1),

$$y_{ij} = B_{0j} + r_j \quad (1)$$

Between group (Level 2),

$$B_{0j} = \gamma_0 + u_{0j} \quad (2)$$

Here,  $B_{0j}$ : represents the mean of the variable  $y_{ij}$  for class,  $r_j$ : represents the error whose mean is zero, variance is  $\sigma^2$ ,  $u_{0j}$ : represents zero-average random effect,  $y_{ij}$ : represents the result variable of observations (Acar & Ogretmen, 2012).

Clustered within group variables in multilevel structural equation modeling are represented with variables such as class, student, teacher, etc., between group variables, which include ingroup variables are represented with the variables of school, city, faculty, country and alike. In addition, the categorical variables included in the analysis are ordered from small to large, or the first variable expressed is fixed and interpreted by evaluating the coefficient sign relative to the other variable. For example; In the MSEM analysis of gender variable 1 = female and 2 = male, if a negative coefficient is found for the gender variable, “female” variable is kept constant and it is concluded that “male” variable affects negatively. In the same case, if a positive coefficient is obtained, the variable “woman” is again kept constant and this time the “male” variable is said to have a positive effect.

In order to examine TALIS-2018 data with multi-level structural equation modeling, firstly the results of the socio-demographic data obtained from the teacher and principal questionnaire were obtained with IBM SPSS Statistic 21.0 version. After this

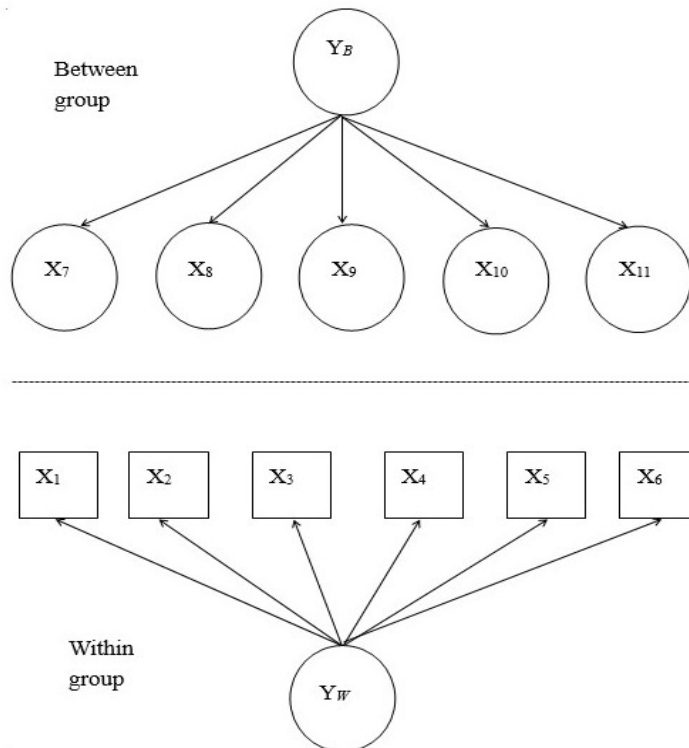
process, Mplus Version 5.1 program (Base Program and Combination Add-on 32-bit) was used for multilevel structural equation modeling analysis. Mplus is a ready-made package program for the analysis of various latent variable models and hierarchical data of both continuous and categorical variables. This package program can analyze advanced, multi-level and complex models (Muthén & Muthén, 1998; Schreiber, 2008).

$$Y_{ij} = \gamma_{00} + \gamma_{10}X_1 + \gamma_{20}X_2 + \gamma_{30}X_3 + \gamma_{40}X_4 + \gamma_{50}X_5 + \gamma_{60}X_6 + \gamma_{01}X_7 + \gamma_{02}X_8 + \gamma_{03}X_9 + \gamma_{04}X_{10} + \gamma_{05}X_{11} + \tau_{0j} + e_{ij} \quad (3)$$

- Y : Teacher Job Satisfaction (Spss code: T3JOBSA)
- X<sub>1</sub> : Age (Spss code: TCHAGEGR)
- X<sub>2</sub> : Gender (Spss code: TT3G01)
- X<sub>3</sub> : Career (Spss code: TT3G08)
- X<sub>4</sub> : Job Experience (Spss code: TT3G11B)
- X<sub>5</sub> : Professional Development Activities (Spss code: TT3G25)
- X<sub>6</sub> : Foreign Students (Spss code: TT3G46)
- X<sub>7</sub> : Age of Principal (Spss code: PRAGEGR)
- X<sub>8</sub> : Gender of Principal (Spss code: TC3G01)
- X<sub>9</sub> : Job Experience of Principal (Spss code: TC3G04B)
- X<sub>10</sub> : School Location (Spss code: TC3G10)
- X<sub>11</sub> : School Type (Spss code: TC3G12)

The path diagram of the multi-level structural equation model showing the within group and between group level established for teacher job satisfaction is given in Figure 1.

**Figure 1**  
The path diagram of multi-level structural equality model established for teacher job satisfaction



For the validity of the model established for TALIS-2018 teacher job satisfaction, it is necessary to evaluate the model's fit. There are four goodness of fit indices which are preferred for multilevel structural equation models and presented to the researcher after the Mplus package program analysis. The comparative fit index (CFI) evaluates the model fit or adequacy by comparing the relationship between the model of the alternative hypothesis, which is to be established in the research, and the model of the null hypothesis. The Tucker Lewis Index (TLI) is the fit index which reveals findings based on the null hypothesis and is interpreted as the amount of adjustment increase sensitive to the degree of freedom. For CFI and TLI model fit assessment, good fit criteria should be over 0.97 for CFI and over 0.95 for TLI. Approximate Error Square Root of Squares Mean (RMSEA) measures the mean squares of distance between observed and predicted matrices per degree of freedom (Knoke, 2003). The Square Root of the Residual Squares Mean (SRMR) is the index showing the mean residual covariance between the estimated covariance matrix of the mass and the sample covariance matrices. When assessing model fit in RMSEA and SRMR, good fit criteria should be less than 0.05 for both RMSEA and SRMR (Ayyildiz & Cengiz, 2006; Cokluk et al., 2012; Hoyle, 1995; Kaplan, 2008; Marcoulides & Schumacker, 2013; Meydan & Sesen, 2011).

One or more independent variables are represented by the coefficient expression ( $R^2$ ), which indicates the level of fit of the model established for the dependent variable, and explains the relationship of the independent variables in the dependent variable (Albayrak, 2005; Cameron & Windmeijer, 1997). The coefficient of determination ( $R^2$ ), which calculates the variance explanation ratio of the dependent variable according to independent variables, and the ratio of explaining teacher job satisfaction of the variables within and between groups were obtained.

In the present study where teacher job satisfaction was examined, statistical assumptions (normality, variance homogeneity, model fit, etc.) of the determined variables were checked and assumption conditions were provided. The analysis of the missing data was performed using Expectation Maximization (EM) method in accordance with the data structure (Little & Rubin, 2019).

## Results

Descriptive statistics of TALIS-2018 survey, in which teachers from Turkey participated, and school principals are shown in Table 1. In Table 1, the mean of job satisfaction score of teachers participating in TALIS-2018 study from Turkey is estimated as 12.008. Mean of job satisfaction levels of teachers of the countries participating in TALIS-2018 are 12.062. Mean of job satisfaction levels of teachers in 29 OECD member countries participating in TALIS-2018 were calculated as 12.05.

Accordingly Table 1, the teachers' job satisfaction levels in Turkey and the teachers' job satisfaction levels in OECD member countries can be said to be close to each other. When the variables within the group were examined, it was found that approximately half (47%) of the teachers participating in the study were in the 30-39 age range, the ratio of female teachers (57.8%) was higher than that of men (42.2%), the majority of teachers were the ones who chose teaching as the first career option. It can also be said that the average of job experience is 12.32 years and that most of the teachers (73%) think that participation in professional development activities positively affects their professional lives and more than half of the teachers (56%) have foreign students in their class.

**Table 1**  
*TALIS-2018 Descriptive Statistics on the Specified Variable Sample from Turkey*

		M*- F	SD*- %	Min. Value	Max. Value
Dependent Variable	Job Satisfaction of Teachers(Y)	12.008*	2.32*	4.57	16.09
	<hr/>				
Within-group Variables	Age(X <sub>1</sub> )				
	<i>Under the age of 25 (1)</i>	65	2%		
	<i>Ages between 25-29 (2)</i>	739	19%		
	<i>Ages between 30-39 (3)</i>	1865	47%		
	<i>Ages between 40-49 (4)</i>	955	24%		
	<i>Ages between 50-59 (5)</i>	270	7%		
	<i>The age of 60 and above (6)</i>	58	1%		
	Gender (X <sub>2</sub> )				
	<i>Female (1)</i>	2286	57.8		
	<i>Male (2)</i>	1666	42.2		
	Career (X <sub>3</sub> )				
	<i>Yes (1)</i>	2521	64%		
	<i>No (2)</i>	1431	36%		
	Job Experience (X <sub>4</sub> )	12.32*	8.01*	0	43
	Professional Development Activities (X <sub>5</sub> )				
	<i>Had a positive effect (1)</i>	2886	73%		
	<i>Did not have a positive effect (2)</i>	1066	27%		
Foreign Students (X <sub>6</sub> )					
<i>Existent (1)</i>	2200	56%			
<i>Non-existent (2)</i>	1752	44%			
<hr/>					
Between-group Variables	Age of Principal (X <sub>7</sub> )				
	<i>Under the age of 40 (1)</i>	45	22%		
	<i>Between the ages 40-49 (2)</i>	105	54%		
	<i>Between the ages 50-59 (3)</i>	30	15%		
	<i>The age of 60 and above (4)</i>	16	8%		
	Gender of Principal (X <sub>8</sub> )				
	<i>Female (1)</i>	19	9.6%		
	<i>Male (2)</i>	177	90.4%		
	Job Experience of Principal (X <sub>9</sub> )	6.91*	6.70*	0	36
	Location of School (X <sub>10</sub> )				
	<i>Village or countryside (1)</i>	33	17%		
	<i>Small town (2)</i>	10	5%		
	<i>Town (3)</i>	51	26%		
	<i>City (4)</i>	46	24%		
	<i>Big city (5)</i>	56	29%		
Type of school (X <sub>11</sub> )					
<i>Public school (1)</i>	180	91.9%			
<i>Private school (2)</i>	16	8.1%			

M: Mean, F: Frequency, SD: Standard Deviation, %: Percentages

When the between-group variables were examined, it was found that approximately half of the principals (54%) participated in the study were in the 40-49 age range, the majority (90.4%) of the principals participating in the study were men, the average work experience of the principals was 6.91 years, and approximately half of the participating schools (52%) were in cities and most of the schools (91.9%) were public schools.

Table 2 shows the goodness of fit statistics displaying the fit of the model of the multi-level structural equation model established for teacher job satisfaction.

**Table 2***Goodness of Fit Statistics for Multilevel Structural Equation Model*

Goodness of fit index	The result obtained from the model	Criterion
CFI	1.000	$\geq 0.97$ , good fit
TLI	1.000	$\geq 0.95$ , good fit
RMSEA	0.000	$\leq 0.05$ , good fit
SRMR	0.000	$\leq 0.05$ , good fit

When Table 2 is examined, it is seen that TALIS 2018 research compliance statistics for the established model which analyses job satisfaction of teachers participating from Turkey, were calculated as  $CFI = 1.000 > 0.97$  and  $TLI = 1.000 > 0.95$ ,  $RMSEA = 0.000 < 0.05$  and  $SRM = 0.000 < 0.05$ . According to these values, it could be suggested that the multilevel structural equation model which was established for the assessment of job satisfaction of teachers who participated in TALIS 2018 from Turkey showed good agreement.

In Table 3, TALIS-2018 research results of the two-level models of multi-level structural equation modeling analysis related to job satisfaction of teachers participating from Turkey, is shown.

**Table 3***MSEM Analysis Results of the Job Satisfaction of Teachers from Turkey Who Participated in the Evaluation of TALIS-2018*

		Estimation	SE	Estimation / SE	p
Dependent Variable	Teacher Job Satisfaction (Y)	12.064	0.434	25.502	0.000
	<hr/>				
Within-group Variables	Age (X <sub>1</sub> )	0.094	0.033	2.838	0.005
	Gender (X <sub>2</sub> )	-0.069	0.016	-4.228	0.000
	Career (X <sub>3</sub> )	-0.214	0.016	-13.638	0.000
	Job Experience (X <sub>4</sub> )	0.03	0.033	0.929	0.353
	Professional Development Activities (X <sub>5</sub> )	-0.173	0.016	-10.879	0.000
	Foreign Students (X <sub>6</sub> )	0.022	0.016	1.366	0.172
Between-group Variables	Age of Principal (X <sub>7</sub> )	0.122	0.123	0.986	0.324
	Gender of Principal (X <sub>8</sub> )	0.236	0.08	2.935	0.003
	Job Experience of Principal (X <sub>9</sub> )	0.005	0.121	0.045	0.964
	School Location (X <sub>10</sub> )	0.215	0.109	1.973	0.048
	School Type (X <sub>11</sub> )	-0.194	0.065	-2.978	0.003

When Table 3 is examined, it is seen that the job satisfaction score of the teachers participating TALIS-2018 research from Turkey is affected by four of the within-group variables ( $X_1, X_2, X_3, X_5 < p=0.05$ ) while it is not affected by two of them ( $X_4, X_6 > p=0.05$ ). In the between-group variables, 3 variables ( $X_8, X_{10}, X_{11} < p=0.05$ ) affect the teacher job satisfaction while 2 ( $X_7, X_9 > p=0.05$ ) of them do not. According to the results obtained for within-group variables determined from the teacher questionnaire, it is seen that teachers' job satisfaction increases with the increasing age of teachers, teacher job satisfaction varies according to gender; job satisfaction of those whose first choice is not being teachers as career and job satisfaction of teachers who do not participate in professional development activities decrease. In addition, it was observed that the teacher's work experience and having foreign students in classes had no effect on the job satisfaction of the teacher. According to the results obtained for between-group variables determined from the principal questionnaire, it was seen that the gender of the principal had an effect on the job satisfaction of the teachers, job satisfaction increased from rural places to cities in terms of the location of the school, and the job satisfaction of teachers teaching in private schools was low. In addition, it was observed that the age and work experience of the principal did not affect teachers' job satisfaction. Table 4 shows the results of  $R^2$  showing the ratio of explaining the teacher job satisfaction score of the within-group and between-group variables belonging to the model established.

**Table 4**  
 $R^2$  Results for Determined Within-Group and Between-Group Variables

	Estimation	SE	Estimation / SE	<i>p</i>
$R^2$ for within group variables				
Y	0.291	0.030	9.70	0.000
$R^2$ for between group variables				
Y	0.135	0.065	2.090	0.037

When both the within-group and between-group coefficients of specification of the multi-level structural equation model given in Table 4 are examined, it is seen that the ratio of explaining the total variation in the dependent variable of the independent variables used in the group is relatively 0.291. The remaining part of 0.709 can be stated to be caused by unknown factors. The ratio of explaining the total variation in the dependent variable of the independent variables between the groups used was relatively 0.135.

**Discussions and Recommendations**

In this study, the factors affecting the job satisfaction of teachers were analyzed with the multi-level structural equation model established by using within-group variables obtained from the teacher questionnaire and between-group variables obtained from the principal questionnaire. One of the results obtained based on the findings of the study; teachers' age, gender, career preferences and participation in professional development activities affect job satisfaction. According to the results of the study, job satisfaction of young teachers is lower. This result is consistent with the studies of Clark et al. (1996), Newman (1978), Rapti and Karaj (2012) and Shrestha (2019). Worries of young teachers in Turkey about the future can reduce their job satisfaction (Uygun, 2012). The future perspective provides an open space for different cognitive processes and emotional attitudes,

depending on how much the future is expected to be full of positive or negative events (Zaleski, 1996). A disturbing sense of tension that may arise as a result of young teachers worrying about something that may happen in the future can always have a strong impact on job satisfaction. Young teachers often start working in schools in a different province, far from their families. Young teachers with little life experience may need someone to guide them, such as school heads. However, young teachers in Turkey state that they cannot get support from school administrators (Sari & Altun, 2015) and that school administrators are not interested in the problems of teachers in the school (Cermik, 2003; Kuzey, 2002). Failure of school administrators to support young teachers may cause the teaching profession to be perceived as a stressful and intimidating occupation, and hence lower job satisfaction.

Job satisfaction of women teachers in Turkey was found to be higher than male teachers. This finding is consistent with the studies of Gligorovic et al. (2014), Kumari, Joshi, and Pandey (2014), Ma ve MacMillan (1999) and Ogedengbe et al. (2018). The fact that women teachers in Turkey give a more devoted impression to their jobs due to socio-cultural and socio-economic reasons might be a cause of this. Stepping out of a socio-economic perception as; men are primarily responsible for making a living for the family and a socio-cultural perception as; the profession of teaching is more suitable for females in Turkey (Kumas & Deniz, 2010), might be considered as the factors that increase the job satisfaction of women. Conversely, the studies of Fattah (2010), Mennon and Reppa (2011), Sahin (2013) and Tasnim (2006) concluded that male teachers have more job satisfaction. Therefore, instead of saying that gender has an effect on job satisfaction, it can be said that socio-cultural and socio-economic conditions that shape social position and work life are effective in differentiating job satisfaction by gender.

Another result obtained in the study is that the job satisfaction of the teachers whose first option as a career is teaching profession is higher. The studies of Aslan (2015), Godbey and Johnson (2011), and Kumas and Deniz (2010) are consistent with this result. It can be stated that those teachers who choose teaching as the first career option do their job lovingly and this provides high job satisfaction. In addition; when the fact that a large proportion of teachers who graduated from teacher training faculties in Turkey can not be employed taken into consideration, it is an expected result that the job satisfaction of the teachers who can perform their first-choice profession is high.

Participation of teachers in development activities increases their job satisfaction. The studies Bentea and Anghelache (2012), Ayra and Kosterelioglu (2015) reached similar findings. It can be said that the increasing motivation of the teachers who participate in professional development activities and their tendency to conform to the era are effective in increasing job satisfaction. In this context, the participation of teachers in professional development activities has an important role in increasing teachers' job satisfaction. Teachers should be provided with opportunities and environments in which they can participate professional development activities.

The job experience of teachers in Turkey and their having foreign students in the classes did not affect their job satisfaction. The studies of Bennett et al. (2013), Durualp and Kaytez (2016), Fattah (2010), Kilic et al. (2013) and Teltik (2009) are consistent with this result. The fact that in Turkey; among the teachers whose working years are more or less, there is no difference in terms of income and social status, might cause job experience to have no effect on job satisfaction. The perspective of hospitality that exists in the structure of the Turkish society may have made the teachers' attitude towards foreign students positive and hence the foreign students do not affect the teachers' job satisfaction.

Another result obtained based on the findings of the study is that the factors of school principals' gender, the location of schools and their type (state/private) are effective in teachers' job satisfaction. Teachers working with male principals have higher job satisfaction. This result is consistent with the results in the studies of Wangai (2015) and Ballou and Podgursky (1995). It can be said that job satisfaction is higher due to the point of view of the teachers working with male school principals and the fact that the society assumes the role of gender in terms of leadership is more appropriate for men might have led to higher job satisfaction. It is another reason to be accustomed to the male leader figure in societies with a male-dominated structure like Turkish society.

Teachers working in urban schools have higher job satisfaction than teachers working in rural settlements. Though this result is not consistent with the works of Wang et al. (2017) and Trentham and Schafer (1985), it is consistent with the work of Showkat et al. (2013). Compared to rural settlements, cities in Turkey provide much more opportunities in terms of psycho-social factors, economic satisfaction and broadness of life facilities, which may be effective in the finding.

It is seen that job satisfaction of teachers working in private schools is lower than teachers working in public schools. It is consistent with the studies of Ahmed (2014), Akhtar et al. (2010), Papanastasiou and Zembylas (2005), Susmitha and Raghavaya (2018). In private schools in Turkey, low teacher salaries and long working hours as well as teachers' not feeling safe and free might have led to this result. In addition, there is a guarantee of employment in public schools but the fear that teachers may lose their jobs in private schools may also reduce the job satisfaction of teachers working in private schools.

From the findings of the study, it was concluded that the school principal's age and work experience did not affect teachers' job satisfaction. In fact, it seems normal for this conclusion to come, because naturally a young manager cannot be expected to have much work experience. Therefore, it is a consistent result that if principal's age does not have an effect on job satisfaction, experience of principal does not have an effect on job satisfaction, either. The interesting point here is that principals, who have experience both in job and life, do not have any effect on increasing teachers' job satisfaction. This may be because of the inability of school principals to go out of certain patterns due to the excessive bureaucratic structure of the Turkish education system; and as a result of the bureaucracy, not being able to allocate sufficient time and attention to teachers due to the intensity of stationery.

In this study, it was found that the age of the teachers, the gender of the teachers, the career preferences of the teachers, the participation of the teachers in the professional development activities, the gender of school principals, the location of schools, and the type of school affect the job satisfaction of the teachers. The results of this study show similarities with some studies in the literature and differences with some others. The reason for this may be that the variables that are discussed in this study can be affected by socio-cultural and socio-economic structures. Analyzing socio-cultural and socio-economic structures separately for different countries may provide healthier results on teachers' job satisfaction. Based on these study results, it could be suggested that in countries with similar characteristics to Turkey in terms of socio-cultural and socio-economical dimensions, it is necessary for school administrators and policy makers to realize the required regulations and improvements related to the factors that affect teachers' job satisfaction. Mentoring of school administrators to young teachers, providing employment opportunities for those who prefer education faculties in the first place in university preferences, increasing the participation of teachers in professional development activities,



improving the opportunities of teachers working in rural areas and private schools can improve teachers' job satisfaction.

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### About the Authors

*Umut Birkan Özkan* is an assistant professor and head of Educational Sciences Department at National Defence University Army NCO Vocational HE School, Balıkesir, Turkey. His academic interest areas are curriculum studies, teacher education, instructional design, academic achievement, large scale assessments and instructional technologies.

*Ertan Akgenç* worked at National Defence University Army NCO Vocational HE School during the writing of the present research article. He is He is a PhD student at Selçuk University. His academic interest areas are statistics and especially multilevel structural equation modeling and applications.