

## The Role of Personal Characteristics and School Characteristics in Explaining Teacher Job Satisfaction

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### Abstract

Recent studies show that teacher job satisfaction has declined in Spain over the last decade. Additionally, teacher job satisfaction is significantly lower in secondary education than in lower educational levels. In this paper, we identify variables that contribute to the prediction of teacher job satisfaction in secondary education. We use the Spanish sample (192 schools and 3,339 teachers) participating in the 2013 edition of the Teaching and Learning International Study (TALIS), sponsored by the Organisation for Economic Co-operation and Development (OECD). Employing hierarchical linear models, we assess the importance of teacher variables and school variables as predictors of job satisfaction. Self-efficacy, control of classroom discipline, age, gender, years of work experience at the current school, and employment status are personal factors that explain teacher job satisfaction. Among the institutional factors, the important effect of teacher-student relations stands out.

*Keywords:* teacher job satisfaction, secondary education, teacher characteristics, school characteristics.

### Resumen

Estudios recientes muestran que la satisfacción laboral del profesorado español disminuyó en la última década, y que resultó significativamente más baja en educación secundaria que en etapas educativas previas. Este trabajo pretende identificar variables que contribuyen a la explicación de la satisfacción del profesorado de educación secundaria. Se utiliza la muestra española (192 centros y 3339 docentes) participante en la edición 2013 del Teaching and Learning International Study, promovido por la OCDE. Mediante modelos lineales jerárquicos, se valora la importancia de variables del profesorado y de los centros como predictores de la satisfacción laboral. La autoeficacia percibida, el control de la disciplina en el aula, la edad, el sexo, la continuidad en el centro y el estatus laboral son factores personales que explican la satisfacción laboral. Entre los factores institucionales, destaca el importante efecto de las relaciones entre profesorado y alumnado.

*Palabras clave:* satisfacción laboral del profesorado, educación secundaria, características del profesorado, características de los centros.

## Introduction

There is a broad consensus regarding the idea that teachers are the main factor that contributes to learning among students. Student achievement largely depends on their competence and professional performance. This proposal is reflected in the literature, which emphasises teacher quality as the variable that is most strongly correlated with educational results, above contextual factors (Darling-Hammond, 2000; Hattie, 2008). Simultaneously, student performance is linked to job satisfaction among teachers (Judge, Thoresen, Bono, & Patton, 2001). High teacher job satisfaction contributes to positive attitudes and higher levels of motivation, enthusiasm, effort, and commitment to teaching, which translates into benefits for schools, improving the quality of the teaching staff, favouring organisational development, and producing students who perform better and have higher rates of school satisfaction (Bogler, 2002). By contrast, teachers with low job satisfaction display lower levels of motivation and commitment (Evans, 2001). Low job satisfaction can lead educators to change schools or abandon the teaching profession entirely, a phenomenon with a worryingly high prevalence in some education systems (Ingersoll, 2001).

The Teaching and Learning International Study (TALIS) conducted in 2013 analysed job satisfaction among secondary school teachers around the world. According to the results of this study, teachers are generally satisfied with their jobs, although the relationship between job satisfaction and other contextual factors varies noticeably among the countries studied (OECD, 2014a). In Spain, studies have been conducted to examine teacher job satisfaction (Torres, 2010) and to link it with demographic or psychosocial characteristics (Briones, Tabernero, & Arenas, 2010; Ruiz, Moreno, & Vera, 2015). These studies rely on circumscribed data samples in set geographical areas or Autonomous Communities. The most recent national-level study on teacher job satisfaction is that conducted by Anaya and López (2014), who compare current data to information gathered nearly a decade ago. They conclude that a significant decline in teacher job satisfaction has occurred over this time period. Specifically, they find that secondary school teachers continue to be the least satisfied with their jobs, reporting lower rates of satisfaction than primary school and preschool teachers and that they also express a greater desire to retire or change professions.

The decline in teacher job satisfaction is what motivates this study, which aims to explain job satisfaction among teachers in Spain's system of compulsory secondary education (*Educación Secundaria Obligatoria* - ESO) through an analysis of the characteristics of teachers and schools, both of which are considered key factors in job satisfaction.

Although much research has been conducted with regard to the relationship between job satisfaction and other variables, no studies with regard to job satisfaction among Spanish teachers that simultaneously consider broad sets of characteristics regarding teachers and schools have been found.

### Teacher satisfaction and associated variables

In the broadest sense, job satisfaction refers to the positive or negative appraisals by individuals of their jobs, generating favourable or unfavourable views of them (Weiss, 2002). For Evans (1997), job satisfaction is the extent to which an individual feels that his or her needs in relation to work are satisfied. From an emotional

perspective, teacher job satisfaction has been defined as the gratification derived from satisfying higher-order needs through work (Ronald & Hutchinson, 1985). Dinham and Scott (1998) identify these needs as related to core aspects of teaching such as working with students and observing them achieve. Several studies confirm that these elements themselves are sources of satisfaction for teachers (Crossman & Harris, 2006; Skaalvik & Skaalvik, 2015; Watt & Richardson, 2006). Although the intrinsic appeal of teaching can be a reason for choosing the teaching profession, its capacity to generate satisfaction among teachers currently working in the field is conditioned by perceptions of teaching performance. Teachers feel satisfied when they perform their work efficiently, with high rates of concentration and effort. Thus, the perception that teachers have of their own efficiency affects their job satisfaction (Caprara, Barbaranelli, Steca, & Malone, 2006; Skaalvik & Skaalvik, 2014).

Evans (1997) distinguishes between satisfaction with the fulfilment of work duties and satisfaction with work conditions, which leads to a consideration of contextual factors. Together with the intrinsic rewards of teaching, Dinham and Scott (1998) include factors based on schools themselves and external to schools as sources of satisfaction.

In terms of school factors or characteristics, some are related to their size (the number of students and teachers), the size of classes, the professional resources and materials available, or certain characteristics of the students enrolled. In general, higher levels of teacher satisfaction are found at smaller schools that lack problems of resources (Shen, Leslie, Spybrook, & Ma, 2012; Skaalvik & Skaalvik, 2009) or, for example, in schools that serve a low percentage of students from socioeconomically disadvantaged homes. Teachers at schools with students of lower socioeconomic status show lower rates of satisfaction (Matsuoka, 2015) and a greater predisposition to transferring to schools that serve families with higher socioeconomic status (Hanushek, Kain, & Rivkin, 2004).

Factors that relate to internal processes at schools have received even more attention (Skaalvik & Skaalvik, 2011); these include the climate of the school, student conduct, support from families for the work that is performed by teachers, collaboration among teachers, leadership by management, teacher autonomy, and teacher participation in decision making (Guarino, Santibáñez, & Daley, 2006; Scheopner, 2010; Skaalvik & Skaalvik, 2009). The satisfaction of teachers is associated with the relationships that they establish with students and also with colleagues at work and the families of students. Empirical studies demonstrate that teacher-student relations comprise the main source of satisfaction (Shann, 1998). In studying the effect of school climate on teacher satisfaction, Collie, Shakpa, & Perry (2012) rate teachers' perceptions of the motivation and behaviour of students as the most important factors. A lack of motivation among students, negative attitudes, a lack of discipline in the classroom, or a climate of conflict in the school generates a lack of satisfaction.

In terms of professional collaboration, important predictors of job satisfaction include the establishment of positive work relationships among teachers and the perception that teachers are recognised by their colleagues (Duyar, Gumus, & Belibas, 2013). The attitudes and behaviour of school management has also been a source of interest (Griffith, 2004; Heller, 1993; Shen et al., 2012). Bogler (2001) analyses the relationship between teacher satisfaction and leadership styles, finding that teacher satisfaction is higher when school management acts democratically, establishes fluid channels for communication and makes teachers and other members of the educational

community participants in decision making (distributed leadership) compared to schools in which leadership is exercised in an authoritarian and centralised manner.

The factors affecting teacher job satisfaction that are extrinsic to schools involve social contexts and educational policies. Here, the educational administration and its prescriptions, the support provided, supervision and external evaluations, salary conditions, or the social prestige of the teaching profession come into play (Dinham & Scott, 1998). Teachers generally demonstrate low satisfaction with these factors. However, a recent study has confirmed the positive impact of external evaluations on teacher satisfaction when these are perceived as fair and oriented towards professional development (Deneire, Vanhoof, Faddar, Gijbels, & Van Petegem, 2014).

Finally, analyses of the relationship between the demographic characteristics of teachers and job satisfaction have produced inconsistent results. Some studies find no significant link between teacher satisfaction and the variables of gender, age, or years of experience (Briones et al., 2010; Saitis & Papadopoulos, 2015). By contrast, in other studies, younger teachers report higher satisfaction than older teachers, and female teachers are more satisfied than male teachers (Ma & McMillan, 1999). Skaalvik and Skaalvik (2009) find a slight negative correlation between the number of years of experience and job satisfaction, whereas Ferguson, Frost, and Hall (2012) identified a positive correlation between these variables.

Although not exhaustive, the review performed in this section shows the broad range of factors that can be associated with teacher satisfaction. This study focuses on a set of variables regarding the characteristics of teachers such as demographic traits, professional traits, and teaching performance, together with variables related to the characteristics of schools and the processes developed in schools. Taking into account that studies of educational realities often find greater variation among individuals rather than among schools (Raudenbush & Bryk, 2002), we establish the hypothesis that teacher variables are more significant than school variables in explaining the differences observed in teacher job satisfaction. Regarding teachers, based on the literature reviewed, it is expected that factors such as the climate of discipline in the classroom, perceived teacher self-efficacy, and years of experience at the school are positively related to job satisfaction. Less empirical support is offered by previous studies regarding the effects of age, gender, or employment status, making it riskier to formulate a preliminary hypothesis. Regarding schools, it is expected that good teacher-student relations, teacher collaboration, distributed leadership by school authorities, and smaller school size are associated with greater satisfaction. The lack of studies in this area leads us to be prudent and avoid anticipating the possible relationship between school types and teacher job satisfaction.

## **Method**

A secondary analysis of the most recent edition of the TALIS, which was conducted in 2013 under the coordination of the Organisation for Economic Co-operation and Development (OECD), was conducted. With 34 participating countries (including Spain), the TALIS administered questionnaires to representative samples of teachers and principals at the ISCED-2 level of the International Standard Classification of Education, which is equivalent to compulsory secondary education in the Spanish educational system. Its purpose was to obtain information about the characteristics of

teachers, principals, and schools as well as about the processes employed in educational institutions.

### **Participants**

The TALIS data sample was selected in two phases: first, schools were selected through stratified random sampling by type and by Autonomous Community throughout Spain; second, 20 teachers from each school were randomly selected and invited to participate in the study. The final Spanish sample consisted of 192 schools and 3,339 teachers. Among the schools, 75.3% were public and 24.74% private. Among the teachers, the median age was 45.51 years, and 59.12% were women.

### **Variables and instruments**

The variables used to evaluate teachers and schools were extracted from the TALIS 2013 database. Some were directly obtained from the responses to particular questions, whereas others were indices constructed through a confirmatory factor analysis (CFA) based on the responses to a set of questions. These indices are latent continuous variables expressed on a scale with two standard deviations, where 10 is the middle point on the response scale to the items that are used as the basis for their construction. A detailed description of their construction and the items comprising the questionnaires can be found in OECD (2014b). The CFAs were implemented using Mplus software.

#### **Job satisfaction**

The job satisfaction variable was expressed through an index based on teacher responses to four items (Cronbach's  $\alpha = .75$ ; McDonald's  $\Omega = .73$ ) (for example, "I enjoy working at this school" or "Overall, I am satisfied with my job"). The responses were given on a four-point Likert scale ranging from *strongly disagree* (1) to *strongly agree* (4). The composite reliability (CR) rose to .85, and the average variance extracted (AVE) was .59. As with the remaining indices calculated in TALIS using CFA, the value of 10 coincides with the middle point of the Likert scale utilised for the items. In this case, it corresponds to the intermediary point between the values of 2 (*disagree*) and 3 (*agree*). Hence, a value above 10 in the satisfaction index indicates a certain level of agreement with the items, considered together, and a value below 10 indicates disagreement with them.

#### **Explanatory variables regarding teachers**

The variables of gender, age, years working at the school, and employment status (fixed-term contracts versus permanent employment) were directly taken from the data provided by teachers in the TALIS questionnaires. In addition to these variables, the following two indices created as part of the TALIS were considered based on the teacher questionnaires:

- Perceived discipline in the classroom. This index is defined as teacher perceptions of student behaviour and the absence of lesson-disrupting conduct. The index was constructed through CFAs according to ( $\alpha = .87$ ;  $\Omega = .78$ ;  $CR = .91$ ;  $AVE = .73$ ) (for example, “I lose quite a lot of time because of students interrupting the lesson”) the answers to items based on a Likert scale expressing the level of agreement ranging from *strongly disagree* (1) to *strongly agree* (4). The scale was inverted for items with a negative connotation.
- Perceived teacher self-efficacy. This index refers to the confidence of teachers in their ability to successfully perform their teaching responsibilities. In practice, this index is defined as the average of another three indices, with each being built based on four items that indicate the extent to which the teacher is capable of performing determined actions on a scale ranging from *not at all* (1) to *a lot* (4). The three initial indices are efficacy in classroom management ( $\alpha = .82$ ;  $\Omega = .76$ ) (for example, “control disruptive behaviour in the classroom”), efficacy in teaching ( $\alpha = .75$ ;  $\Omega = .72$ ) (for example, “implement alternative instructional strategies in my classroom”), and efficacy in involving students ( $\alpha = .80$ ;  $\Omega = .75$ ) (for example, “motivate students who show low interest in school work”). The composite reliability values for the three sub-scales are .88, .84, and .87, respectively, and the AVEs are .66, .57, and .63, respectively. In the scale formed by the three indices that comprise the measure of efficacy, the values acquired were as follows:  $\alpha = .90$ ,  $\Omega = .78$ ,  $CR = .94$ , and  $AVE = .84$ .

### **Explanatory variables regarding schools**

Variables regarding school type (public or private) and school size (the number of students enrolled), which were obtained through the questionnaires completed by principals as part of the TALIS, were considered. Various indices from the TALIS are also included here:

- Perceived teacher-student relations. This index is defined as the perception of the existence of personal interactions that are positive for the development of learning. It is measured based on four items answered by teachers ( $\alpha = .78$ ;  $\Omega = .73$ ;  $CR = .86$ ;  $AVE = .61$ ) (for example, “teachers and students typically get on well with each other”) who indicate a level of agreement according to a four-point Likert scale ranging *strongly disagree* (1) to *strongly agree* (4). The middle value in this index is obtained as an average of the values for the teachers.
- Perceived teacher collaboration. This index implies the existence of joint activities among teachers at a school as part of the development of their teaching duties. The index is obtained as an average of another two indices, which are constructed based on four-item groups from the teacher questionnaire. The items indicate the frequency with which teachers perform given activities on a scale ranging from *never* (1) to *once a week or more* (6). The two indices measure exchange and coordination to support teaching ( $\alpha = .68$ ;  $\Omega = .75$ ;  $CR = .82$ ;  $AVE = .53$ ) (for example, “exchange teaching materials with colleagues”) and professional collaboration ( $\alpha = .57$ ;  $\Omega = .70$ ;  $CR = .76$ ;  $AVE = .45$ ) (for example, “participate in collaborative professional learning”). The correlation between the indices that comprise the measure of collaboration is .91. The value of the index

on teacher collaboration at each school is obtained by averaging the values obtained for its teachers.

- Perceived distributed leadership. This index is defined as the perceptions by school principals regarding the democratic character of their actions, the fluidity of communication, and participation in decision making. It is supported by three items answered by principals ( $\alpha = .83$ ;  $\Omega = .73$ ;  $CR = .87$ ;  $AVE = .70$ ) (for example, “this school provides staff with opportunities to actively participate in school decisions”) that express their degree of agreement on a four-point Likert scale ranging from *strongly disagree* (1) to *strongly agree* (4).

### Analysis of the data

The analysis began with descriptions of the independent variables. Calculations of the average and standard deviation of the continuous variables were performed. For the categorical variables, percentages for each modality or category were recorded.

The participating teachers were grouped in schools, and hence, it was possible to consider the variables measured both at the level of teachers (first level) and at the level of schools (second level). Due to the nested structure of the data at both levels, hierarchical linear models were used (Goldstein, 1987; Raudenbush & Bryk, 2002). First, an unconditional or null multilevel model was constructed, including only one random effects factor. This model made it possible to confirm the existence of inter-school or intra-school differences in teacher satisfaction. The combined model for the two levels is formulated as follows:

$$Y_{ij} = \gamma_{00} + u_{0j} + e_{ij}$$

where  $Y_{ij}$  refers to job satisfaction for teacher  $i$  at school  $j$  and is obtained by adding the global measure of teacher satisfaction ( $\gamma_{00}$ ) to  $u_{0j}$  (random variation in the measures of schools compared to the global average) and  $e_{ij}$  (random variation in teachers compared to the average for the school).

To study the relationship between the explanatory variables and teacher satisfaction, a second model was adapted that included the average  $M$  at the schools:

$$Y_{ij} = \gamma_{00} + \sum_{q=1}^M \gamma_{0q} Z_{qj} + (u_{0j} + e_{ij})$$

where the coefficients  $\gamma_{0q}$  indicate the change in satisfaction when modifications are made to  $Z_{qj}$  (value of the  $q$ th variable at school  $j$ ), controlling for the effects of the remaining variables.

Finally, a third model was constructed with the second-level variables (schools) whose effects were significant, adding the first-level variables (teachers). This model allowed us to jointly analyse the effects of these average variables on the teachers and schools. With the number of variables included in both levels denominated  $M$  and  $N$ , respectively, the combined model represents the effects for the two groups of variables:

$$Y_{ij} = \gamma_{00} + \sum_{p=1}^N \gamma_{p0} X_{pij} + \sum_{q=1}^M \gamma_{0q} Z_{qj} + (u_{0j} + e_{ij})$$

where the fixed part of the model corresponds to the global average ( $\gamma_{00}$ ) and the principal effects due to each of the level 1 variables ( $\gamma_{p0}$ ) and level 2 variables ( $\gamma_{0q}$ ). In this model,  $X_{pij}$  represents the value of the  $p$ th variable in teacher  $i$  at school  $j$ .

In the three models described above, we assume independence between the  $u_{0j}$  and  $e_{ij}$  errors, whose distributions tend towards a normal model with parameters  $N(0, \sigma_{u0}^2)$  and  $N(0, \sigma_e^2)$ , respectively. The models have been adjusted using the SPSS 23 program.

## Results

### Characteristics of teachers and schools

Table 1 presents the descriptive statistics for the characteristics of teachers and schools. When the indices concern personal or institutional traits (teacher-student relations, the level of discipline in the classroom, teacher self-efficacy, teacher collaboration, and distributed leadership), the measures should be evaluated taking into account that the centre point on the utilised scale is 10.

Table 1

*Average Statistics, Standard Deviation, and Percentages for Variables Regarding Teachers and Schools*

Variables	Statistics
<i>Characteristics of teachers (n = 3,339)</i>	
Gender / <i>Women</i> (0)	59.12%
<i>Men</i> (1)	40.88%
Age	$M = 45.51; DT = 8.57$
Years at the school	$M = 8.87; DT = 3.36$
Employment status / <i>Fixed-term contract</i> (0)	18.45%
<i>Permanent contract</i> (1)	81.55%
Climate of discipline in the classroom	$M = 10.23; DT = 2.14$
Perceived teacher self-efficacy	$M = 11.93; DT = 1.69$
<i>Characteristics of schools (n = 192)</i>	
Type / <i>Public</i> (0)	75.26%
<i>Private</i> (1)	24.74%
School size (number of students)	$M = 685.29; DT = 419.97$
Perceived teacher-student relations	$M = 12.98; DT = 0.85$
Perceived teacher collaboration	$M = 9.62; DT = 0.50$
Perceived distributed leadership	$M = 13.24; DT = 2.37$



**Null or unconditional model**

Table 2 shows the results obtained for the single-factor model with random effects, called a null or unconditional model because it does not include any explanatory variable. The cut-off or intercept point represents the average satisfaction among all teachers, situated at  $\gamma_{00} = 12.26$ . Regarding the random part of the model, the values reached by the Wald z statistic allow us to affirm that teachers within individual schools differ in their level of job satisfaction ( $e_{ij} = 3.28$ ;  $Z = 39.12$ ;  $p = .001$ ) and also that there are differences among schools ( $u_{0j} = 0.42$ ;  $Z = 6.60$ ;  $p < .001$ ). Of the total variability observed in teacher satisfaction ( $e_{ij} + u_{0j} = 3.71$ ), 11.29% corresponds to the differences between schools ( $u_{0j}$ ), whereas 88.71% corresponds to the differences between the teachers themselves ( $e_{ij}$ ). The existence of significant variation between schools and within schools makes it relevant to continue with the expansion of the multilevel model, including variables that contribute to explaining the variation observed at both levels.

Table 2

*Null or Unconditional Hierarchical Linear Model (Model 1)*

Estimated fixed effects					
Parameter	Estimate	Standard error	Degrees of freedom	<i>t</i>	<i>p</i>
Intercept	12.26	0.06	190.27	215.17	.001
Estimated random effects					
Parameter	Estimate	Standard error	Wald z statistic	<i>P</i>	
$e_{ij}$ (variation within schools)	3.28	0.08	39.12	.001	
$u_{0j}$ (variation among schools)	0.42	0.06	6.60	.001	

**Model with average variables regarding schools**

With the differences in job satisfaction among teachers at different schools established, the null model can now be expanded to include variables regarding schools (Table 3). The objective is to determine the extent to which the characteristics of schools explain the differences observed. Keeping the remaining the variables constant, teacher satisfaction at a school increases by 0.56 points ( $p = .001$ ) when the index regarding teacher-student relations improves. Although significant ( $p = .003$ ), the effect of school size is weak; according to the coefficient for this variable, an increase of 100 students is associated with an increase in teacher satisfaction of only 0.03. The negative effect of distributed leadership is also significant ( $p = .024$ ).

When second-level variables are included, there is a reduction in the unexplained variation between schools ( $u_{0j}$ ), which decreases from 0.42 in the null model to 0.18. Thus, the percentage of variance attributed to the different schools is 57.48% lower than the null model. This decrease indicates the inter-school variance explained by the variables included in the second-level analysis.

Table 3

*Hierarchical Linear Model for Predictors of Job Satisfaction Based on Schools (Model 2)*

Estimations of fixed effects				
Parameter	Estimate	Standard error	<i>t</i>	<i>p</i>
Intercept	6.44	1.19	5.40	.001
Type	0.06	0.14	0.41	.681
School size (number of students)	0.00	0.00	2.97	.003
Perceived teacher-student relations	0.56	0.07	8.28	.001
Perceived teacher collaboration	-0.11	0.10	-1.07	.287
Perceived distributed leadership	-0.05	0.02	-2.27	.024
Estimations of random effects				
Parameter	Estimate	Standard error	Wald z statistic	<i>p</i>
$e_{ij}$ (intra-school variation)	3.26	0.09	36.13	.001
$u_{0j}$ (inter-school variation)	0.18	0.04	4.29	.001

### Model with variables regarding schools and teachers

Finally, Model 3 combines the variables for schools and teachers in order to gauge the importance of predictors at both levels, considering them simultaneously in our explanation of job satisfaction. The relevant characteristics from the analysis of institutional factors in Model 2 are also included, as well as the variables measured for teachers.

In the final model, the predictors regarding teacher-student relations and school size have significant effects. Job satisfaction increases with teacher self-efficacy ( $p = .001$ ) and with the climate of discipline in the classroom ( $p = .001$ ). Job satisfaction declines by 0.01 for each one-year increase in teacher age ( $p = .033$ ); by contrast, it increases by 0.01 for each additional year of employment at the school ( $p = .009$ ). Satisfaction is 0.25 lower in male teachers than female teachers ( $p = .001$ ). It also decreases by 0.39 among teachers with permanent employment compared to teachers with fixed-term contracts ( $p = .001$ ).

The unexplained variance among schools is  $u_{0j} = 0.15$ , which represents a 64.91% reduction compared to the null model ( $u_{0j} = 0.419$ ). The inclusion of variables for teachers reduces the intra-school variance by 11.34%.

Table 4

*Hierarchical Linear Model for Predictors of Teacher Satisfaction for Teachers and Schools (Model 3)*

Estimations of fixed effects				
Parameter	Estimate	Standard error	<i>t</i>	<i>p</i>
Intercept	2.90	0.81	3.59	.001
School size	0.00	0.00	2.57	.011
Perceived teacher-student relations	0.46	0.05	8.84	.001
Perceived distributed leadership	-0.03	0.02	-1.55	.124
Gender	-0.25	0.07	-3.77	.001
Age	-0.01	0.01	-2.13	.033
Years at the school	0.01	0.01	2.63	.009
Employment status	-0.39	0.09	-4.11	.001
Climate of discipline in the classroom	0.15	0.02	9.42	.001
Perceived teacher self-efficacy	0.24	0.02	11.62	.001
Estimations of random effects				
Parameter	Estimate	Standard error	Wald z statistic	<i>p</i>
$e_{ij}$ (intra-school variation)	2.92	0.08	36.11	.001
$u_{0j}$ (inter-school variation)	0.15	0.04	4.16	.001

The fit of the model improves when the deviation value is lower (the fit statistic utilised to compare hierarchical linear models). The deviation of the final model ( $-2LL = 11,048.85$ ) is 2259.31 lower than that obtained for the null model ( $-2LL = 13,308.16$ ). Given that the difference in the deviations of the models is chi-square with nine degrees of freedom (the number of fixed effects parameters added in the expanded model), the global fit of the final model improves significantly ( $p < .001$ ) compared to the null model.

### Discussion

This study has established that there are differences in teacher job satisfaction at different schools but that individual differences are more important. Confirming the original hypothesis, an exploration of the variables associated with job satisfaction has found a greater number of individual characteristics than school characteristics.

At the school level, the variable of teacher-student relations possesses the greatest explanatory relevance and is thus among the main predictors of job satisfaction. This result confirms the importance of factors intrinsic to teaching as a source of job satisfaction, as noted by Dinham and Scott (1998) and confirmed in numerous studies that assign greater value to relations with students than relations with other teachers or the families of students (Shann, 1998; Skaalvik & Skaalvik, 2015; Watt & Richardson, 2006).

Student-teacher relations are an indicator of the school climate, which is understood as the web of relations and interactions established at the school. The individual characteristic with the greatest impact on job satisfaction is a factor that is broadly related to the school climate: classroom discipline. The importance of this variable has been highlighted in previous studies (Collie et al., 2012; Skaalvik & Skaalvik, 2011).

Another important variable is that of perceived self-efficacy. In line with the findings of previous works, (Caprara et al., 2006; Skaalvik & Skaalvik, 2014), teachers who are confident in their ability to teach, motivate students, and adequately teach and manage the class express greater levels of satisfaction. It should be borne in mind that efficacy in teaching contributes to learning among students (Klassen, Tze, Betts, & Gordon, 2011; Ross, 2013), which is another intrinsic reward of teaching that becomes a significant source of satisfaction (Skaalvik & Skaalvik, 2015).

Among the demographic traits, the variable of gender constitutes a good predictor of job satisfaction. Very similar to previous works that have identified differences according to gender (Anaya & López, 2015; Ma & McMillan, 1999), our study finds greater job satisfaction among female teachers. These differences have been explained by the traditional association between feminine roles and tasks that involve caretaking and service, which makes women more likely than men to prefer caring professions and teaching (Pena, Rey, & Extremera, 2012). An increase in age leads to a slight decline in job satisfaction. By contrast, a greater number of years spent at the same school corresponds to higher job satisfaction. Teachers with permanent employment have slightly lower job satisfaction compared to teachers with a fixed-term contract, with the latter being more common in Spain among teachers in the early stages of their careers.

Finally, school size has been shown to be relevant in explaining teacher job satisfaction. Contrary to the findings of previous studies (Shen, Leslie, Spybrook, & Ma, 2012; Skaalvik & Skaalvik, 2009), slightly higher job satisfaction is observed among teachers in larger schools. This finding suggests that deeper analysis of this variable is required to examine its behaviour when controlling for other factors and to explore its interactions with other variables.

Assuming that the teaching performed in schools is affected by teacher job satisfaction, achieving and maintaining high rates of satisfaction should be a priority objective in educational policy. To that end, the main area for action concerns the classroom climate, particularly the relations established between teachers and students. The low levels observed in the climate of discipline in classrooms, together with the positive link between this factor and job satisfaction, suggest the importance of providing teachers with the skills and tools for reducing disruptive behaviour, resolving conflicts, and boosting coexistence in the classroom. Greater perceived self-efficacy should also be encouraged among teachers to boost their motivation and commitment to schools and teaching as well as to contribute to improved learning among students. Another focus should be the problem of deteriorating job satisfaction in older teachers, in response to which palliative measures are necessary to avoid burnout and disenchantment over the course of teaching careers.

A representative sample of Spanish schools and teachers was acquired through the data obtained in the TALIS, and multi-level models provided this study with a set of independent variables belonging to different levels of aggregation. However, the limitation of this study is found in the fact that only a small number of variables included in the TALIS were utilised as independent variables, and only their main effects were considered. In this sense, future studies should deepen the analysis of these variables, exploring the effects of the possible interactions between them. Given that the variability in teacher job satisfaction between schools and even within schools continues to be significant after the construction of the multi-level models, new studies could aim to examine variables that were not considered here and that could prove relevant in explaining teacher job satisfaction. In this sense, it would be interesting to examine

variables that are external to schools, such as social environments or educational policies developed by administrations, or other possible topics at the level of schools, such as the characteristics of students (for example, the presence in the classroom of students from immigrant families, students with learning disabilities, or students from socioeconomically disadvantaged homes).

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Received date: 13-12-2015

Review date: 22-04-2016

Accepted date: 01-06-2016