



The Teacher Job Satisfaction Scale – Turkish Form: Psychometric Properties and Construct Validity

Research Article

Meltem YALIN UCAR¹, Tuba BAGATARHAN²

¹Aydın Adnan Menderes University, Faculty of Education, Department of Curriculum and Instruction. Aydın, Turkey  0000-0002-9922-0905

²Ministry of National Education, İstiklal Kindergarten. Aydın, Turkey  0000-0002-7885-6496

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ABSTRACT

Teachers' job satisfaction is an important concept that affects their job performance. The Teacher Job Satisfaction Scale consisting of nine items (TJSS-9) was developed by Pepe, Addimando, and Veronese (2017). The construct validity of the TJSS-9 was tested in six countries (Netherlands, United States, Russia, China, Italy, and Palestine), and a three-dimensional structure of the TJSS-9 was confirmed. The purpose of the current study was to investigate the psychometric properties of the Turkish version of TJSS-9. The data were collected from 514 teachers recruited in state-run primary, middle and high schools located in Turkey (59.5% females). Analyses were performed using IBM SPSS 23 and AMOS 24. Results supported acceptable goodness-of-fit indices for the three-dimensional factor structure [$\chi^2(24) = 2.680$, $p < .001$, RMSEA = 0.057, SRMR = 0.034, CFI = 0.988, GFI = 0.972, TLI = 0.982, and NFI = 0.981]. Multi-group confirmatory factor analysis showed measurement invariance across gender. The Turkish version of the TJSS-9 ($\alpha = 0.887$) and its sub-dimensions (satisfaction with co-workers, $\alpha = 0.889$; satisfaction with students, $\alpha = 0.879$; and satisfaction with parents, $\alpha = 0.914$) indicated good or excellent internal consistency reliability. The results provided strong validity and reliability evidence, in line with the previous study, showing that the Turkish version of TJSS-9 is a psychometrically good instrument to evaluate the job satisfaction of teachers.

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Keywords:

Teacher job satisfaction scale, job satisfaction, teacher, adaptation, psychometric properties, validity, reliability

¹ Corresponding author's address: Adnan Menderes Üniversitesi
Telephone: +905055887155
e-mail: myalinuc@gmail.com
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Introduction

Job satisfaction describes the extent to which all the variables required by the job performed are liked. Therefore, job satisfaction is an affective behavior and is treated as a relative feeling of like or dislike. Job satisfaction or satisfaction describes the satisfaction of the individual as a result of the combination of psychological, physiological, and environmental factors (Hoppock, 1935).

Job satisfaction refers to an employee's affective or emotional response to his or her job (Cranny, Smith, & Stone, 1992). Therefore, the individual's positive attitudes towards his job lead to job satisfaction; negative attitudes indicate job dissatisfaction (Armstrong, 2006). For this reason, it is important to understand and verify the concept of job satisfaction, which is among the antecedents of job attitude (Lambert, Hogan, & Griffin, 2007, p. 645). In this context, while attitude indicates the direction, degree, or intensity of emotion of the orientations that emerge as a result of affective state, cognition, behavioral purpose, and behavioral reaction or reactions (Miller, 1993), it also includes the concept of motivation because it leads to the conclusion that the relationship between attitude and motivation will also affect job satisfaction (Singh, Granville, & Dika, 2002; Ceylan, Sağirekmekçi, Tatar, & Bilgin, 2015). Job satisfaction describes how satisfied an employee is with the rewards she/he receives from his/her job, especially in terms of intrinsic motivation (Statt, 2004). For these reasons, it is possible to say that job satisfaction is the sum of people's feelings and beliefs about their current job (Aziri, 2011, p. 77).

Herzberg, Maunser, and Snyderman (1959) stated that when an employee's attitude is understood, that person's motivation to work is best understood. In order to understand this, they formed a dual-factor theory of job satisfaction as a result of their study. The first factor of this theory is the motivating factors (recognition, achievement, the possibility of growth, advancement, responsibility, work itself) related to the personal life of the individual and motivating factors (salary, interpersonal relations, supervisor, interpersonal relations-subordinates, interpersonal relations-peers, supervision- technical, company policy and administration, working conditions, factors in personal life, status, job security) related to non-work factors at work (Herzberg et al., 1959).

Similarly, Smith, Kendall, and Hulin (1969) defined job satisfaction as the emotion or emotional reactions of an employee in all different areas of his job, while Gruneberg (1976) similarly stated that job satisfaction is all of the feelings employees have about their job. Locke (1976) also tried to explain the nature of human's physical and psychological needs and how they could be satisfied through the mind, by emphasizing the importance of the mind and body relationship in his theory of composite job satisfaction. Maslow's (1954) theory of basic needs is the basis of all theories on job satisfaction because especially when the profession is a main source of satisfaction if the main motivations are met in the context of work and career when it comes to professionally related needs such as meeting needs, satisfaction with the profession has a function of the mismatch between personal needs and the perceived potential of the profession to meet the needs (Kuhlen, 1963; Worf, 1970). If important motives are answered as part of work and career, satisfaction with occupation should be a function of the gap between the needs of people and the occupation's perceived potential for satisfying needs, especially among those for whom occupation is a main source of satisfaction (e.g., men rather than women) and in the case of occupationally relevant needs, such as need achievement.

In summary, job satisfaction is defined as matching one's needs with the perceived potential of the job (Kuhlen, 1963) to meet one's needs, while according to Worf (1970), it is defined as meeting the needs. Thus, based on Maslow's theory, job satisfaction can be defined as 'meeting an employee's desired needs within the framework of physical and psychological variables'.

Within the scope of this study, based on the dual-factor theory of Herzberg et al. (1959), it aimed to adapt the measurement tool, which includes the variables of "colleagues", "parents", and "student", included

in the scope of "non-work factors at work", into Turkish. It is thought that the measurement tool consisting of three sub-dimensions will fill a theoretical gap needed in Turkey, with its feature of being developed by providing the equivalence condition with the data obtained from six different countries based on a determined theory. The data of the original measuring instrument were obtained from countries located on different continents, Netherlands, United States, Russia, China, Italy, and Palestine. It is thought that the data obtained are meaningful in terms of their scope and cultural similarity.

In the adaptation of the measurement tool, bias was avoided, and equivalence was tried to be achieved. In this context, since the measurement tool was developed based on data obtained from six different countries, it is thought that the construct bias was reduced in that it covers cultural diversity and therefore included cultural characteristics similar to Turkish society because the amount of cross-cultural overlap of the subject structure of the adapted tool should be evaluated (International Test Commission, 2005; Hambleton, 1996). In addition, the fact that the universal projection of the teaching profession has similar characteristics in every society maintains the structural validity of the adapted measurement tool. For this reason, structural bias has been eliminated as the behaviors in the measurement tool and the dimensions of the measurement tool are similar to the behaviors of Turkish teachers (Van de Vijver & Hambleton, 1996). Again, method bias was eliminated as the instructions of the measurement tool were clear, the answering procedures were similar, the same physical stimulus was obtained from each participant via google forms, the teacher participants were familiar with the structure of the measurement tool, and the answers obtained were not extreme (Van de Vijver & Tanzer, 2004). At the same time, due to the fact that the items of the original measurement tool were clear and understandable, and the number of items was low, its translation into Turkish was one-to-one. For this reason, understanding different or additional features or qualities from the questions (ICT, 2005) was avoided.

Method

This research was carried out using the quantitative method. Descriptive statistics, construct validity, measurement invariance, and reliability analyses were performed to examine the psychometric properties of the Turkish version of TJSS-9.

Participants

The participants of this study consisted of 514 teachers recruited from state-run primary, middle and high schools located in Turkey. The sample included 208 males (40.5%) and 306 females (59.5%). In this sample, work experience of 7.8% of the participants was between 1-5 years ($n = 40$), 13.6% of the participants was between 6-10 years ($n = 70$), 24.9% of the participants was between 11-15 years ($n = 128$), 20.4% of the participants was 16-20 years ($n = 105$), 18.9% of the participants was between 21-25 years ($n = 97$), and 8.4% of the participants was between 26-30 years ($n = 43$), and 6% of the participants ($n = 31$) was 30 years and above.

Procedure

The study received human subjects research approval from a University Ethics Board. All the participants were recruited via online survey tools. The purpose of the study was explained, and voluntary participant consent was provided before conducting the data collection instruments to participants. The volunteering of the participants was used as the basis for the data collection process.

Measures

Teacher Job Satisfaction Scale (TJSS-9)

The Teacher Job Satisfaction Scale (Pepe, 2011) is a questionnaire developed for measuring the job satisfaction of individuals specifically working in education. 9 items version of the instrument (TJSS-9) was derived from the original 35-item original Teacher Job Satisfaction Scale. The TJSS-9 included three-item

subscales for "satisfaction with co-workers" (e.g., "The extent to which your co-workers encourage you and support you in your work"), "satisfaction with parents" (e.g., "The degree of interest shown by parents in the education of their children"), and "satisfaction with students' behaviors" (e.g., "Your overall level of satisfaction with student discipline in your school"). The TJSS-9 is rated on a five-point Likert-type scale, ranging from "I am highly dissatisfied with this aspect of the school" (1) to "I am highly satisfied with this aspect of the school" (5). Higher scores indicate higher levels of job satisfaction.

Validity and reliability studies of the TJSS-9 were conducted in six international cohorts (Netherlands, United States, Russia China, Italy, and Palestine) (Pepe, Addimanto, & Veronese, 2017). Confirmatory factor analysis was conducted to investigate the construct validity of the three-factor structure of the TJSS-9. The goodness of fit values of TJSS-9 was good ($\chi^2 = 151.2$, $df = 24$, $NFI = 0.99$, $NNFI = 0.99$, $CFI = 99$, $RMSEA = 0.04$, $SRMR = 0.02$).

For convergent validity, correlations between the sub-dimensions of TJSS-9 and the GHQ-12 which is measuring teachers' psychological distress were calculated. The correlations between GHQ-12 and the "Satisfaction with co-workers" ($r = -0.179$), "Satisfaction with parents" ($r = -0.180$) and "Satisfaction with students' behaviors" ($r = -0.233$) sub-dimensions were found negative.

In the reliability studies of the scale in six countries, the Cronbach's alpha internal consistency coefficient was varied between 0.79 and 0.88 for the "Satisfaction with co-workers" sub-dimension, between 0.72 and 0.90 for the "Satisfaction with students' behaviors" sub-dimension, and between 0.79 and 0.94 for the "Satisfaction with parents" sub-dimension (Pepe, Addimanto, & Veronese, 2017).

Turkish Translation of the TJSS-9

The translation of TJSS-9 into the Turkish version was done by two individuals who are fluent in both the English and Turkish languages and have professional knowledge of the subject matter. Then another expert who has professional English language competence in the field of educational sciences and psychology compared the translations and modified some of them needed to provide the same meaning as the original version, and cultural compatibility. Finally, the scale items were examined by a Turkish linguist in order to enable language compatibility of this form.

Demographic Questionnaire

The demographic questionnaire was used to collect information about the participant's gender and work experience. Participants' gender was coded as male (1) and female (2). Work experience was recorded as 1-5 years (1), 6-10 years (2), 11-15 years (3), 16-20 years (4), 21-25 years (5), 26-30 years (6), 30 years and above (7).

Statistical Analysis

All analyses were performed using AMOS 24 and IBM SPSS 23. Prior to analysis, assumptions for the factor analysis including univariate and multivariate normality were examined. Skewness and kurtosis values were used for checking the univariate normality of the data. The values of skewness and kurtosis between -1.5 and +1.5 are indicated the normal distribution of data (Tabachnick & Fidell, 2013). (Skewness and kurtosis values are supposed as normal variance when they are between -1.5 and +1.5). Multivariate outliers were identified by using a $p < 0.001$ criteria with Mahalanobis distance (Tabachnick & Fidell, 2013).

Confirmatory factor analysis (CFA) with the maximum likelihood estimation method was used for the construct validity of the three-factor TJSS-9. CFA was calculated for only males, only females, and the total sample for the Turkish version of TJSS-9. Measurement invariance of the TJSS-9 with respect to gender was tested using Multigroup Confirmatory Factor Analyses (MG-CFA). Four hierarchical measurement invariance models were tested with MG-CFA: Configural, metric, scalar, and strict (Vandenberg & Lance, 2000). For the

configural invariance model, no equality restrictions were made on the model. Factor loadings were constrained to be equal across groups for the metric invariance model. Then, both factor loadings and item intercepts were constrained across groups in the scalar invariance model. Lastly, factor loadings, item intercepts, and residual variances were constrained to be equal across groups in the strict invariance model.

Model fit of the single and multigroup CFAs was evaluated with Chi-Square Goodness (χ^2 / degrees of freedom (df)), Root Mean Square Error of Approximation (RMSEA), Standardized Root Mean Square Residual (SRMR), Comparative Fit Index (CFI), Goodness of fit index (GFI), Incremental fit index (IFI), Tucker–Lewis Index (TLI) and, Normed Fit Index (NFI). Absolute fit indices for χ^2 /df value below 5 (Tabachnick & Fidell, 2007); RMSEA and SRMR values below .05; CFI, GFI, IFI, TLI, NFI values greater than .95 (Hu & Bentler, 1999; Schermelleh-Engel, Moosbrugger, & Müller, 2003) constitute a good fit. To assess the goodness-of-fit between nested measurement invariance models, the χ^2 difference test and the difference in the CFI values ($\Delta\text{CFI} \leq .01$) between nested models were used (Chen, 2007; Cheung & Rensvold, 2002).

The reliability of the TJSS-9 total and sub-scale scores was assessed by calculating the internal consistency was estimated by Cronbach's alpha coefficient. George and Mallery (2016) suggest that Cronbach's Alpha value above 0.90 shows excellent, above 0.80 is good, above 0.70 is acceptable, above 0.60 is questionable, above 0.50 is poor, and below 0.50 is unacceptable internal consistency.

Results

The TJSS-9 Turkish version item means, standard deviations, skewness, and kurtosis values were provided in Table 1. Skewness values for the TJSS-9 Turkish version items ranged from -0.95 to -0.20 and kurtosis values from -0.70 to 1.14, suggesting that the items conform to the assumptions of confirmatory factor analysis for this sample.

Table 1. Descriptive statistics for TJSS-9 items

		<i>M</i>	<i>SD</i>	Skewness	Kurtosis
Item 1	The quality of your relations with co-workers	4.13	0.830	-0.951	1.146
Item 2	The extent to which your co-workers encourage you and support you in your work	3.97	0.946	-0.852	0.535
Item 3	Your overall satisfaction with your co-workers	4.02	0.893	-0.777	0.584
Item 4	The extent to which students act in a self-disciplined manner	3.61	0.991	-0.562	0.062
Item 5	Your satisfaction with the behavior of students in your school	3.65	0.968	-0.563	0.114
Item 6	Your overall level of satisfaction with student discipline in your school	3.69	1.003	-0.584	0.048
Item 7	The degree of interest shown by parents in the education of their children	3.04	1.138	-0.200	-0.675
Item 8	The extent to which parents are supportive of the school and its programs	3.14	1.172	-0.230	-0.702
Item 9	Your overall level of satisfaction with parents where you work	3.22	1.084	-0.306	-0.517

Construct Validity

Since normality assumptions were met, the maximum-likelihood method was used as an estimation method. The goodness of fit indices was evaluated for one-factor and three-factor models for the Turkish version of TJSS-9. The goodness of fit indices for both models are presented in Table 2.

Table 2. Goodness of fit indices for CFA model of the Turkish version of TJSS-9 ($N = 514$)

Model	χ^2	df	χ^2 / df	RMSEA	SRMR	CFI	GFI	IFI	TLI	NFI
One-factor	1276.853	27	47.291	0.300	0.167	0.621	0.607	0.622	0.495	0.617
Three-factors	64.328	24	2.680	0.057	0.034	0.988	0.972	0.988	0.982	0.981

Table 2 shows that the one-factor model displayed a very poor fit with the data, $\chi^2(24) = 47.291, p < .001$, RMSEA = 0.300, SRMR = 0.167, CFI = 0.621, GFI = 0.607, IFI = 0.622, TLI = 0.495, and NFI = 0.617. Three-factors model displayed satisfactory fit indexes, suggesting that it should be accepted, $\chi^2(24) = 2.680, p < .001$, RMSEA = 0.057, SRMR = 0.034, CFI = 0.988, GFI = 0.972, TLI = 0.982, and NFI = 0.981.

As a result, the three-factors model provided equally robust fit indexes, leading us to adopt it as our baseline for assessing multi-group structural invariance. In addition, results indicated that the factor loadings of all items displayed substantial factor saturation (all $\lambda .73-.95$), which exceeded the desirable standard of 0.50 (Hair et al., 2010). The p values for factor loadings were under 0.001 in all cases. The relationships among items and factors of the Turkish version of TJSS-9 are presented in Figure 1.

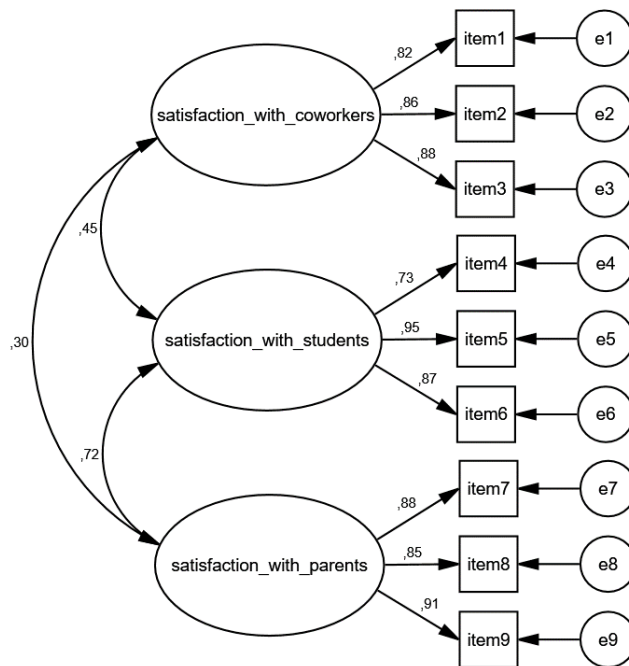


Figure 1. Measurement model of CFA for the Turkish version of TJSS-9.

The baseline model specified relationships among sub-factors. In particular, satisfaction with parents and satisfaction with students displayed statistically significant, strong, and positive correlation ($\varphi_{32} = .72, p < .001$). However, the satisfaction with co-workers appeared to be less strongly related to satisfaction with students ($\varphi_{12} = .45, p < .001$), and satisfaction with parents ($\varphi_{13} = .30, p < .001$).

Measurement Invariance

MG-CFA was performed to evaluate measurement invariance of the Turkish version of the TJSS-9 across gender. Four levels of invariance (configural invariance, metric invariance, scalar invariance, and strict invariance) were tested using a series of increasingly restrictive models (Table 3).

Table 3. Fit statistics for multi-group confirmatory factor analysis by gender

Model	χ^2	<i>df</i>	RMSEA	SRMR	CFI	IFI	TLI	NFI	Δ CFI	$\Delta\chi^2(p)$	Δ df
Males	37.326	24	0.052	0.037	0.989	0.990	0.984	0.971	-	-	-
Females	56.454	24	0.067	0.037	0.984	0.984	0.976	0.973	-	-	-
Configural invariance	93.780	48	0.043	0.037	0.986	0.986	0.979	0.972	-	-	-
Metric invariance	101.294	54	0.041	0.036	0.986	0.986	0.981	0.970	0.000	7.514 (0.28)	6
Scalar invariance	105.861	60	0.039	0.036	0.986	0.986	0.983	0.969	0.000	4.567 (0.60)	6
Strict Invariance	122.034	69	0.039	0.041	0.984	0.984	0.983	0.964	0.002	16.173 (0.63)	9

Successively stricter constraints were tested to test for configural, metric, scalar, and strict invariance. The single-sample solutions for the three-factor model based on the female and male subsamples were provided in Table 3. A good model fit was obtained for both subsamples. Configural invariance was supported by fit indices meeting benchmarks for adequate fit (RMSEA = 0.064, SRMR = 0.037, CFI = 0.986, TLI = 0.979, NFI = 0.972). Metric, scalar, and strict invariance could be assumed across gender, as evidenced by a non-significant drop in model fit ($\Delta\chi^2 = n.s.$, Δ CFI $\leq .01$) for the successively stricter models.

Reliability Analysis

The main descriptive statistics and standardized Cronbach's alpha coefficients for the TJSS-9 sub-scale scores are presented in Table 4. According to the results, all the dimensions of TJSS-9 were reliable and displayed normal distribution.

Table 4. Descriptive statistics and internal consistency of the TJSS-9 subscale

	<i>M</i>	<i>SD</i>	Cronbach's Alpha	Skewness	Kurtosis
All scale	32.480	6.573	0.887	-0.278	-0.029
Satisfaction with co-workers	12.124	2.417	0.889	-0.712	0.228
Satisfaction with students	10.955	2.657	0.879	-0.599	0.286
Satisfaction with parents	9.401	3.135	0.914	-0.238	-0.499

Result and Discussion

The aim of the current research was to evaluate the psychometric properties of the Turkish version of the Teacher Job Satisfaction Scale which was developed depending on external stimuli (satisfaction with co-workers, students, and parents). The findings indicated that TJSS-9 is a valid and reliable scale. The results are summarized as follows.

First, construct validity was examined by confirmatory factor analysis. Findings showed that the three-factor model of the Turkish version of the TJSS-9 was confirmed. Satisfactory fit indices were provided. In addition, adequate fit indices were obtained separately for only female and only male groups. This finding is consistent with the findings of the study by Pepe et al. (2017), investigating the reliability of the TJSS-9 in six countries. However, Pepe et al. (2017) did not test the construct validity of the scale only for male and female groups. Therefore, this study has provided an important contribution to the literature.

Second, the measurement invariance of the TJSS-9 across gender was investigated. Findings indicated that configural, metric, scalar, and strict invariance were assumed across gender for the TJSS-9. Measurement invariance is an important necessity in multiple-group structural equation modeling. It provides to verify that

the estimated factors are measuring the same latent construct within each group. Measurement invariance is the statistical indicator of the correlation being the same between the observed and latent variables among the subgroups (Widaman & Reise, 1997). Since measurement invariance shows the validity of the scales, if the measurement invariance was confirmed among the subgroups, these scales can be used to make comparisons among groups. Since the measurement invariance across gender was not tested in the study of Pepe et al. (2017), this study makes an important contribution to the literature.

Third, the current study examined the internal consistency reliability via Cronbach's alpha coefficient. Findings indicated that Cronbach's alpha internal consistency coefficient of the Turkish version of TJSS-9 ($\alpha = 0.887$), "Satisfaction with co-workers" sub-dimension ($\alpha = 0.889$), "Satisfaction with students sub-dimension" ($\alpha = 0.879$), and "Satisfaction with parents" sub-dimension ($\alpha = 0.914$). Cronbach's alpha value higher than 0.90 indicates excellent and higher than 0.80 is good internal consistency (George & Mallery, 2016). According to the criteria of George and Mallery (2016), the TJSS-9, "Satisfaction with co-workers" sub-dimension, and "Satisfaction with students sub-dimension" have good internal consistency, while the "Satisfaction with parents" sub-dimension has excellent internal consistency. The finding regarding Cronbach's alpha internal consistency is consistent with the findings of the study of Pepe et al. (2017), which showed good or excellent internal consistency for the TJSS-9 and sub-dimensions.

Increasing teacher stress and frustration have been associated with increased workload and a greater emphasis on teacher performance and accountability (Ingersoll, 2017; Zeichner, 2014). Job satisfaction is a phenomenon that reinforces organizational citizenship behaviors (Swaminathan & Jawahar, 2013; Shragay & Tziner, 2011; Serpian, Bambang, & Nayati, 2016). Job satisfaction is very important for teachers themselves and their students for qualifications and a sense of belonging. Job satisfaction depends on relations with colleagues, students, and parents. Relations with parents and students provide more intense interaction with parents and a stronger "customer" position (Ball, 2003). Job satisfaction affects teacher performance; it also contributes to the well-being of teachers and their students, the overall cohesion of the school, and the evolving status of the teaching profession. International research indicates that the decreasing prestige of the teaching profession together with the unsatisfactory working environment is a source of dissatisfaction and causes turnover (Ingersoll & Smith, 2004; TemaNord, 2010). For these reasons, it is necessary to constantly determine teachers' job satisfaction levels, receive feedback and take necessary measures as a result of this feedback. However, there is no job satisfaction scale for teachers in Turkey, which is dependent only on external stimuli and includes the triad of co-workers, students, and parents. For this reason, it is thought that an important gap has been eliminated by adapting the TJSS-9 tool into Turkish.

The TJSS-9 includes three of the non-work factors, which is the second of the dual-factor theory (Herzberg et al., 1959) of job satisfaction; It is limited to three sub-dimensions consisting of colleagues, students, and parents. Because parent, student, and colleague variables, apart from personal factors are the primary factors that include both the work and social context of a teacher, the sub-dimensions of the TJSS-9 are considered as a factor increasing the validity and reliability of its.

It has been understood from the literature review that job satisfaction should be measured by quantifying the behaviors shown towards psychological, behavioral, affective, and environmental conditions (Ghanizadeh & Jalal, 2017). Therefore, it is considered important to adapt or develop a valid and reliable Teacher Job Satisfaction Scale to the literature which can be used in descriptive studies. As job satisfaction increases, the quality of the product produced also increases (Gafa, 2019). In fact, this concept works like "double requires" in mathematics. The more job satisfaction, the more efficiency/output. Because the concept in question includes both psychological and physical parameters. In this respect, job satisfaction is a concept with a wide spectrum. For this reason, the fact that the scale in question described job satisfaction only for behaviors related to non-work variables was an important factor that increased the validity of the

measurement tool. Therefore, the current study provided an important contribution to the validity and reliability of the TJSS-9 for the Turkish population, that is, it has a multicultural structure.

Limitations

Although the current research provides an important contribution to the literature about the psychometric properties of the TJSS-9, it also has some limitations. One of the limitations of the study is that the original and translated forms of the scale could not be applied simultaneously in a bilingual group. Future studies can test the validity and reliability of the scale with a bilingual sample. In addition, the concurrent and discriminant validities of the scale could not be tested in the current study. In addition to these, although the internal consistency reliability of the scale was tested, the test-retest reliability could not be tested. It will be useful to evaluate the test-retest reliability of the TJSS-9 in future studies.

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