Sakarya University Journal of Education

e-ISSN : 2146-7455
Publisher : Sakarya University

Vol. 15, No. 2, 194-209, 2025
DOI: https://doi.org/10.19126/suje.1520917

Research Article

The Validity and Reliability Study of the Teacher Autonomy Scale

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Received: 23.07.2024
Accepted: 20.06.2025
Available Online: 08.08.2025

Abstract: This research aimed to develop a Teacher Autonomy Scale (TAS) to determine teachers' perception levels of autonomy. This study aimed to create a measurement tool that can measure teachers' educational and teaching duties and management duties in a single dimension. TAS was applied to teachers at different branches working in the Küçükçekmece District of Istanbul Province in the 2023-24 academic year, and the analysis phase was conducted using the collected data. The participants of the study were selected according to the convenience sampling method. The trial form of the 28-item scale was applied to 201 teachers. The item pool was examined by three measurement and evaluation experts, three teachers, three school administrators, a Turkish language expert, and a 28-item trial form of the scale was created. The trial form of the scale was created as a five-point Likert-type rating scale with response options of strongly agree, agree, undecided, disagree, and strongly disagree. A preliminary application study was conducted with 40 teachers working in different branches. As a result of the trial application, the final version of the scale, consisting of 15 items, was obtained with expert opinions. The reliability and validity studies were carried out on the remaining 198 teachers. As a result of exploratory factor analysis (EFA), a single-factor structure consisting of 15 items was obtained, and the unidimensional factor explains a total variance of 57.896%. Then, confirmatory factor analysis (CFA) was conducted with a different sample of 348 teachers to test the structure revealed by EFA. All factor loadings in the CFA model were determined to be statistically significant ($p<.05$). Fit indices calculated with CFA show that the scale is valid and reliable enough to be used for different sample groups. The factor structure of the TAS was confirmed as one factor named 'Teachers' autonomy within the classroom and school'. As a result of the reliability analysis of the final form of the scale, the alpha coefficient was found to be .89.

Keywords: Teacher Autonomy, Reliability, Validity

1. Introduction

Teacher autonomy entails that educators have a certain level of authority and freedom in matters related to their profession. This area of authority and freedom includes various issues such as teachers making decisions about their profession as 'experts' (Ingersol, 2007), organizing their working environments as they see fit (Pearson & Hall, 1993), and participating in the planning, development, and management of education (Freidman, 1999). Teacher autonomy concerns not only the expansion of authority but also issues such as increasing the professional competence of teachers and providing them with all kinds of pedagogical support that can help them improve their teaching activities (Bustingorry, 2008; Steh & Pozarnik, 2005).

1.1. Theoretical framework

1.1.1. Teacher autonomy

Definitions of teacher autonomy have been made over time, focusing on different dimensions. Little (1990), Tort-Moloney (1997), and Smith (2000) focus on the ability of teachers to engage in self-directed professional development in their definition of teacher autonomy. According to them, an autonomous teacher is a teacher who is aware of when, where, and how to acquire and use educational skills and current knowledge. The definitions made by Little (1990) and Tort-Moloney (1997) are definitions made by theorists working on learner autonomy. Although these definitions examine teacher autonomy in detail, they do not address the element of teacher behavior. When the behavioral element is added, teacher autonomy can be defined in three dimensions: competence and freedom in knowledge,

Cite as(APA 7): Akçay, P. (2025). The validity and reliability study of the teacher autonomy scale. *Sakarya University Journal of Education, 15*(2), 194-209. https://doi.org/10.19126/suje.1520917

skills, and behavior (Yan, 2010, pp. 175–176). According to Pearson and Moomaw (2005), teacher autonomy is described as teachers' feeling of being able to control their work environment and their competence. According to Freidman (1999), teacher autonomy means the formation of teacher power. Ingersol (1997) defined teacher autonomy as the individual autonomy that teachers exercise over joint decisions regarding planning and education in their own classrooms or school policies. Kreis and Young Brockopp (2001) also emphasized the concepts of "control, influence, participation, and authority," which stand out in Porter's (1989) definition of teacher autonomy. McGrath (2000) emphasized two dimensions of teacher autonomy. The first of these is the actions and developments directed by the teacher, and the second is independence from the control of others. Franklin (1988) stated that teacher autonomy can emerge when teachers see themselves as competent authorities in their field, believe that they have the right to manage the educational process, and general school rules are replaced by flexible rules that teachers deem appropriate in the classroom. While Lamb (2007) defines teacher autonomy as the capacity of teachers to improve their teaching and the freedom to teach in ways that the teacher determines, Anderson (1987) similarly defines it as the professional development or actions that teachers manage themselves, being independent from the control of others. Smith (2001) defines teacher autonomy in six dimensions: professional action directed by the teacher himself (Autonomous Teaching), the teacher having professional competence (Technical Dimension), the teacher being independent in using professional action (Political Dimension), professional development directed by the teacher (Autonomous Teacher Learning), the teacher's competence in self-directed professional development (Technical Dimension), and the teacher's independence in using professional development (Political Dimension).

Upon examination of the definitions, it is evident that teacher autonomy is narrowly defined as the teacher's reflection of his own choices and decisions on the education and training activities in the classroom, arising from the nature of education and training activities (Üzüm, 2014). Research has shown that teachers around the world generally have autonomy, and the enclosed classroom structure gives them a certain freedom (Anderson, 1987). When teacher autonomy is viewed from a broader perspective beyond the freedom teachers have in the classroom, it will be accepted that it is a phenomenon that expands teachers' powers, increases their participation in management and decision-making mechanisms, and improves teachers' roles in determining the quality and structure of education and training (Freidman, 1999; Üzüm, 2014).

1.1.2. Dimensions of teacher autonomy

Based on the definitions made regarding the concept of teacher autonomy, we see that teacher autonomy is examined in three dimensions: planning and implementation of teaching, professional development, and participation in management processes. In practice, the issues where teachers have the widest autonomy and can exercise the most authority are those directly related to classroom teaching activities (Anderson, 1987). To improve the quality of education, teachers need to be given full authority to determine methods according to the needs and characteristics of their learners, and to choose and apply their materials freely (Freidman, 1999). It is a widely accepted view in the education literature that teachers should have autonomy not only in choosing teaching methods and materials but also in choosing teaching content (Freidman, 1999; White, 1992).

Freidman (1999) divides teacher autonomy into two groups: pedagogical autonomy and organizational autonomy. Educational autonomy is directly linked to education and training, while organizational autonomy is associated with issues such as participation in school management. Teachers' increasing participation in the processes of organizing school operations, managing financial and human resources, improving the school environment, making decisions to achieve goals, and implementing the decisions taken also increases teachers' demands for authority and autonomy (Üzüm, 2014). Steh and Pozarnik (2005) argue that teacher autonomy is directly linked to the teaching profession, encompassing values,

field knowledge, professional knowledge, and application competencies. From this perspective, it has been stated that another element of teacher autonomy is the professional development of teachers. Since in-service training of teachers supports the professional development of teachers, it also appears as a determining factor in the development of teacher autonomy (Castle, 2004). However, as Bustingorry (2008) emphasizes, autonomy is a competence that cannot be achieved at once and permanently but must be developed continuously. In addition to in-service training programs, teachers need to work collaboratively as a team in developing autonomy (Üzüm, 2014). The diversity and quality of all resources provided to teachers are also important factors affecting teacher autonomy and the use of this area of autonomy (Mustafa & Cullingford, 2008).

When the educational sciences literature was examined, it was seen that there were different measurement tools developed to reveal teachers' perception of autonomy. Üzüm (2014), Karabacak (2014), Ulaş and Aksu (2015), Çolak (2016), and Karadeniz and Fer (2023)'s research shows that they developed a measurement tool to reveal the level of teacher autonomy at the local level. Additionally, it was observed that the scales developed by Leiter (1981), Pearson and Hall (1993), Archbald and Porter (1994), Freidman (1999), and Vangrieken et al. (2017) were widely used in international literature. In these studies, it has been observed that the dimensions of teacher autonomy, such as teaching autonomy, curriculum autonomy, professional development autonomy, professional communication autonomy, administrative autonomy, and financial autonomy, have been developed. In addition, as a result of the review of the measurement tools, it was observed that the number of items in the scales increased with dimensionality. This limitation is based on the fact that the teaching and management duties of the teacher are included as a dimension of teacher autonomy in all studies in the literature. While developing this scale, which will contribute to the field by making the perception level of teacher autonomy more concrete and simplified, the most basic and concrete duties of teachers were taken as the basis.

As a result of the literature review, it was seen that teachers' perception of autonomy developed primarily within the framework of teachers' educational and teaching duties and management duties, and this study aimed to develop a measurement tool that can measure these elements in a single dimension.

In addition, considering teachers' pivotal roles in the education system and their centrality in educational science research, it is fair to say that their workload and responsibilities are substantial. Participants in research studies prioritize the applicability and practicality of measurement tools, directly impacting participant numbers. Given the imperative for measurement tools to not only demonstrate validity and reliability but also be practical, it is evident that the scale developed in this research aims to contribute as a valuable measurement instrument to the literature.

2. Method

This section includes detailed explanations about the participants who participated in the development process of the Teacher Autonomy Scale, the implementation process, information about data analysis, as well as the examination of the obtained data in terms of EFA assumptions.

2.1. Participants and procedure

An online survey was set up to develop and test the psychometric properties of the TAS (Teacher Autonomy Scale). TAS was applied to 201 teachers from different branches working in the Küçükçekmece District of Istanbul Province in the 2023–2024 academic year, and the analysis phase was conducted using the collected data. The participants of the study were selected according to the convenience sampling method. Convenience sampling, also known as availability sampling, is a non-probability sampling technique. Researchers select easily accessible and convenient individuals or units to participate in a study. This method relies on the ease of access rather than random selection from the

population, making it a practical choice in many research contexts (Neuman, 2014; Bryman, 2016). The use of the convenience sampling method limits generalizability, and in this study, the results are only valid for the groups included in the sample and generalizability is limited. The data collection stage spanned from December 2023 through January 2024. In the Exploratory Factor Analysis (EFA) study, 67.2% of 198 teachers were female, and 32.8% were male. In the Confirmatory Factor Analysis (CFA) study, 51.4% of 348 teachers were female, and 48.6% were male.

2.2. Scale development process

To prepare the trial form of the scale developed to determine the level of teachers' autonomy perception, qualitative data analysis was first conducted by interviewing teachers. To determine the structural validity of the Teacher Autonomy Scale, both exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) were conducted. This section includes analyses related to the validity and reliability studies of TAS.

2.2.1. Teacher Autonomy Scale (TAS)

To prepare the trial form of the scale developed to determine teachers' autonomy perception levels, 12 teachers working in different fields were interviewed. In the qualitative content analysis, themes were created from the interviewed teachers' statements, taking into account the dimensions of teacher autonomy in the studies cited in this study, and the scale item pool was obtained. Regarding the content validity of the TAS, the draft form was reviewed by three measurement and evaluation experts, three teachers, three school administrators, and a Turkish language expert. The item pool was examined by the same experts, and a 28-item trial form of the scale was created. The trial form of the scale was created as a five-point Likert-type rating scale with response options of "strongly agree," "agree," "undecided," "disagree," and "strongly disagree." A preliminary application study was conducted with 40 teachers working in different branches. As a result of the trial application, the final version of the scale, consisting of 15 items, was obtained with expert opinions.

2.2.2. Data analysis

During the scale development process, establishing construct validity is critical for ensuring the accuracy of the scores obtained from the scale. Construct validity assesses the precision of conclusions drawn about unmeasurable factors based on measurable factors (Çokluk et al. 2010). The factor analysis technique is commonly used to evaluate the construct validity of scales developed in the social sciences (Büyüköztürk, 2010; Hughes, 2018; Nunnally & Bernstein, 1994; Thompson, 2004). The two main approaches in factor analysis are exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). In exploratory factor analysis, researchers strive to categorize related variables in the early stages of their study to define and summarize the dataset effectively (Pallant, 2011; Tabachnick & Fidell, 2019). Conversely, in confirmatory factor analysis, the objective is to examine hypotheses or theories relating to the structure created based on the interrelationships between variables using intricate and advanced analyses (Büyüköztürk, 2010; Tabachnick & Fidell, 2019). In this study, both exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) were conducted to determine the construct validity of the Teacher Autonomy Scale. As part of the reliability studies, Cronbach's alpha, McDonald's omega, and standardized Cronbach alpha coefficients were calculated.

2.2.3. Examination of data obtained from TAS in terms of EFA assumptions

In order to ensure that the data obtained from TAS satisfied the analysis assumptions, the first step involved checking for any missing data in the datasets. As a result of the missing data analysis, it was determined that the missing data were randomly distributed, and the mean of the series was used to replace the missing data. Little's MCAR test: $\chi^2 = 43.565$, df = 56, p = .887. Then, the dataset was examined for multivariate outliers with the help of Mahalanobis distance, and extreme values were

eliminated from the dataset using this method. In the calculation made with SPSS, the significance of Mahalanobis distance was tested with 1 - χ^2(df = number of items - 1). In the dataset of 201 teachers, 3 data points that were significant at the α = .001 level were removed, and a dataset of 198 teachers was obtained. The EFA study was applied to data obtained from the 198-teacher sample group. This dataset was examined for multicollinearity problems through tolerance, condition index, and variance inflation factor. The tolerance values ranged from 0.37 to 0.64, and the variance inflation factor ranged from 1.56 to 2.70. Since the condition index value was greater than 30, it was observed by examining the plot graph that the correlations of the items were less than 0.90. Thus, it can be concluded that there is no issue of multicollinearity (Tabachnick & Fidell, 2019).

It was examined whether the obtained dataset met the multivariate normal distribution condition. For this purpose, Mardia's skewness coefficient value (Mardia, 1970) was used. Accordingly, the dataset did not exhibit a multivariate normal distribution (Mardia skewness coefficient = 3795.55, $p < .05$). In addition, it can be said that the skewness coefficients of the variables varied between -2.70 (item 1) and -1.09 (item 9), and the kurtosis coefficient varied between -0.48 (item 2) and 9.81 (item 1). Since the dataset does not exhibit a multivariate normal distribution, unweighted least squares (ULS), which is robust against the violation of this assumption, was used as the factor extraction method in the EFA (Brown & Moore, 2012). Before performing EFA, the sphericity test result recommended by Bartlett (1950) was examined. According to the results of Bartlett's sphericity test obtained from the information scale data, the correlation matrix differs from the identity matrix ($\chi^2 = 7052.90$; df = 105; $p < .001$). Additionally, the KMO value obtained from TAS data is 0.868. Accordingly, it can be said that the sample is at a meritorious level (Kaiser & Rice, 1974; Leech, et al., 2015). A polychoric correlation matrix was used when performing EFA with TAS data. Analyses were carried out using the Factor 12.04.04 software (Lorenzo-Seva & Ferrando, 2020).

3. Results and Findings

Evidence was collected for the construct validity and content validity of the data obtained from the TAS. Additionally, the reliability coefficients in terms of internal consistency were examined.

3.1. Exploratory factor analysis results of TAS

The results of the exploratory factor analysis conducted with TAS data are shown in Table 1, presenting the explained variance rates and eigenvalues.

Table 1

Eigenvalues and Explained Variance Rates Obtained as a Result of TAS EFA

Variable	Eigenvalue	Proportion of Cumulative Variance (%)	Cumulative Proportion of Variance (%)
1	8.68446	0.57896	0.57896
2	1.54869	0.10325	
3	1.15164	0.07678	
4	0.81550	0.05437	
5	0.58956	0.03930	
6	0.52599	0.03507	
7	0.43441	0.02896	
8	0.34241	0.02283	
9	0.26768	0.01785	
10	0.23745	0.01583	
11	0.18993	0.01266	
12	0.10973	0.00732	
13	0.06509	0.00434	
14	0.03745	0.00250	
15	0.00000	0.00000	

Figure 1

The Scree Plot Showing Eigenvalues for Factor Extraction Based on Exploratory Factor Analysis

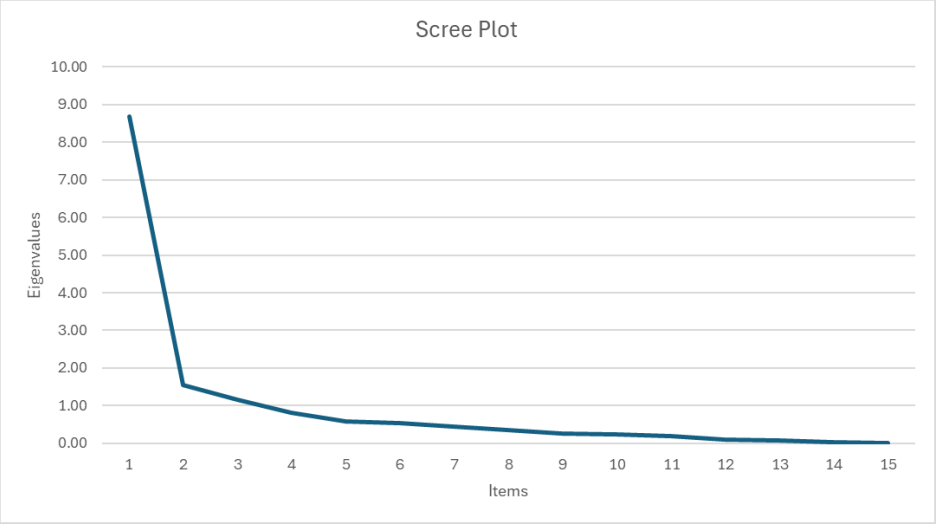


Table 1 shows that the unidimensional structure explains 57.90% of the total variance. Deciding on the number of factors is a challenging step for researchers in exploratory factor analysis (EFA). This need has led to the development of several data-driven methods. In this study, the number of factors was determined using three techniques: parallel analysis (PA) developed by Timmerman and Lorenzo-Seva (2011), the HULL method introduced by Lorenzo-Seva, et al. (2011), and the Minimum Average Partial (MAP) method proposed by Velicer (1976). These methods are reported to provide more accurate results than traditional techniques in determining the number of factors (Ignacio et al., 2006; Kılıç & Uysal, 2019; Liu & Wang, 2016). Therefore, the factor number was determined by triangulating the outcomes of these three approaches.

When examining the explained variance based on eigenvalues in both the HULL and PA analyses, the Cumulative Proportion of Variance values were found to be 0.57896 in both cases. This consistency supports the interpretation that both the PA and HULL methods suggest a unidimensional structure. Given that the single-factor structure accounts for 57.90% of the total variance, it was concluded that the scale structure is unidimensional. This unidimensional scale is referred to as the Teacher Autonomy Scale (TAS) and consists of 15 items. The factor loadings obtained from the EFA are presented in Table 2.

Table 2

The Factor Loadings of TAS

	Item	Factor Loading	Communality
1	The teacher must be able to determine teaching methods/strategies.	0.651	0.424
2	The teacher should be able to determine classroom teaching approaches.	0.688	0.473
3	The teacher must be able to choose appropriate methods and techniques for teaching.	0.795	0.631
4	The teacher should be able to use materials he deems appropriate in teaching.	0.816	0.666
5	The teacher should be able to determine the use of the classroom.	0.774	0.598
6	The teacher must be able to determine the rules of behavior in the classroom.	0.755	0.569

Table 2 (Continued)

7	The teacher should be able to support autonomous student behavior in the lesson.	0.761	0.579
8	The teacher must be able to make changes in the teaching process.	0.704	0.496
9	The teacher should be able to use the measurement and evaluation methods he deems appropriate.	0.704	0.496
10	The teacher should be able to use classroom teaching time freely.	0.644	0.414
11	Teachers should have a primary say in solving problems related to teaching processes.	0.698	0.487
12	Curriculum should be planned primarily by taking teachers' opinions into consideration.	0.853	0.728
13	Teachers should have a primary say in decisions regarding their profession.	0.760	0.577
14	Teachers should be involved in every decision at the school level.	0.828	0.686
15	Teachers should be included in management processes.	0.652	0.424
Total variance explained		0.57896	

When analyzing Table 2, it is evident that the factor loadings range from 0.644 (Item 10) to 0.853 (Item 12). Regarding the minimum acceptable factor loading values, Costello and Osborne (2005) considered a threshold of 0.30 as sufficient, while Tabachnick and Fidell (2019) suggested a minimum value of 0.32. Moreover, considering that the minimum recommended explained variance for a unidimensional structure is at least 30% (Büyüköztürk, 2013), the observed explained variance of 57.896% suggests that the unidimensional factor structure of the scale is statistically adequate and conceptually sound. The Turkish version of the scale is also presented in APPENDIX A.

3.2. TAS reliability analysis results

As a result of the reliability analysis, it was observed that the Cronbach's alpha reliability coefficient of the TAS, indicating internal consistency, was 0.890. The TAS also demonstrated a high level of internal consistency, as evidenced by McDonald's ordinal omega coefficient of 0.947 and the standardized Cronbach's alpha coefficient of 0.947. According to these results, it can be concluded that the internal consistency reliability of the data obtained through TAS is high (Hair et al., 2009).

3.3. Examination of data obtained from TAS in terms of CFA assumptions

Upon examination, it was determined that there was no missing data in the dataset. Multivariate outliers were assessed using Mahalanobis distance, and extreme values were removed accordingly. In SPSS, the significance of the Mahalanobis distance was tested using the 1-Chi-squared (Mahalanobis distance, number of items – 1) formula. As a result, 12 cases with significance at the $\alpha = 0.001$ level were excluded, yielding a dataset of 348 participants. Multicollinearity and singularity issues—defined as excessively high correlations or correlations equal to 1—were examined using condition index (CI), variance inflation factor (VIF), and tolerance values (TV). To avoid multicollinearity, TV should be greater than 0.01, VIF should be less than 10, and CI should be under 30 (Kline, 2016; Tabachnick & Fidell, 2019). In the dataset, the VIF ranged from 1.41 to 2.65, the TV ranged from 0.38 to 0.71, and the CI ranged from 1.00 to 95.51. Although the CI exceeded the threshold, Pearson correlation coefficients were also examined. The correlations ranged from 0.26 to 0.69, indicating that no multicollinearity problem existed among the variables (Tabachnick & Fidell, 2019).

Another assumption of CFA is multivariate normality. This was tested using Mardia's (1970) multivariate skewness coefficient, and the assumption was not met (Skewness coefficient = 5109.44, $p < 0.01$). Therefore, the mean and variance adjusted unweighted least squares (ULSMV) method was used

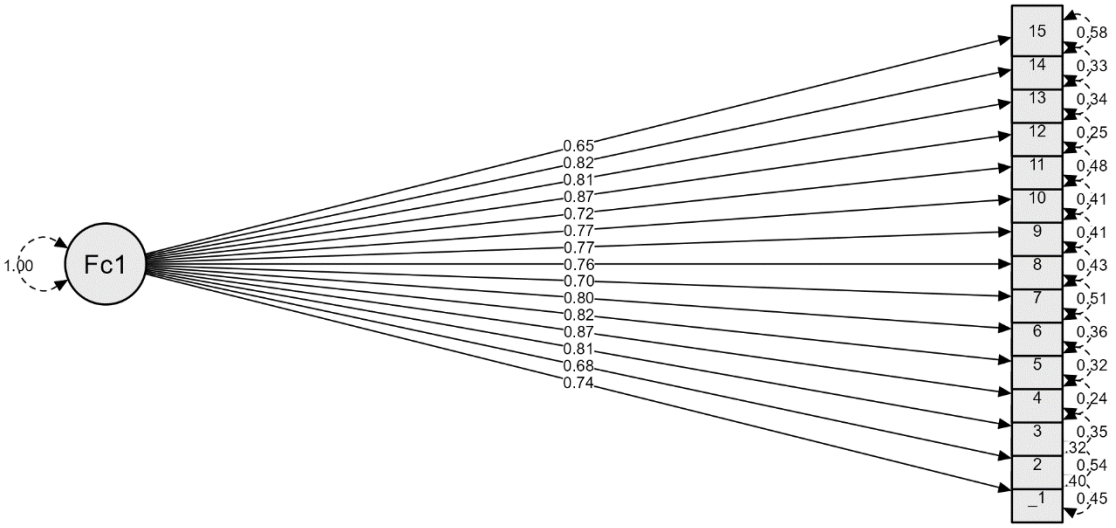
as the estimation technique, which is robust to violations of multivariate normality in categorical data (Brown, 2015; Kılıç & Doğan, 2021). CFA was conducted to test the structural validity of the scale. Because the variables had five categories, a polychoric correlation matrix was used, following the recommendation of Kılıç (2022), who emphasized that polychoric matrices produce less biased estimates for ordinal data. All CFA analyses were conducted using JASP software (JASP Team, 2014).

3.4. Confirmatory factor analysis findings

CFA was performed to confirm the factor structure identified in EFA. Modification indices indicated that correlating the error terms for Items 5 and 6 and for Items 1 and 2 would improve the model fit. This adjustment was justified by the use of similar concepts in those items and the potential for acquiescent responding (Brown, 2015). The results of the CFA suggested that the unidimensional structure provided an acceptable model-data fit: $\chi^2/df = 7109.021$, $p < .01$; RMSEA = 0.096; SRMR = 0.075; CFI = 0.96; TLI = 0.95. An RMSEA value around 0.09 and an SRMR value near 0.08 indicate acceptable fit (Hu & Bentler, 1999; Steiger, 2007). CFI and TLI values of 0.95 or higher indicate a strong model fit (Hu & Bentler, 1999). The final model is illustrated in Figure 2.

Figure 2

The Confirmatory Factor Analysis Model Tested with the TAS



When Figure 2 is examined, it can be said that the factor loadings vary between 0.65-0.87.

3.5. ANOVA and T-test results for teacher autonomy

To examine whether teacher autonomy varies depending on the age, gender and education status ANOVA analysis and t-test were conducted.

Table 3

ANOVA Results for Teacher Autonomy by Seniority Status

	n	x̄	Sd	F	*p*
Teacher Autonomy	348	4.687	.3426	.885	.414
Up to 10 years	110	4.663	.35803		
11-20 years	145	4.715	.34507		
21 and more years	93	4.671	.3199		

*p< .05

When Table 3 is examined, it is concluded that there is no significant difference in the level of teacher autonomy [$F(3, 348)= .88$, $p= .414$] according to the seniority of the teachers. The primary reason why

there is no significant difference in teacher autonomy between teachers who are in their early years of their profession and those who are senior in their profession can be shown as the centralized structure of the education system. Determination of policies and practices from the center considerably narrows down the autonomy areas of teachers within the school and classroom. The study conducted a t-test analysis to investigate whether teacher autonomy varies by gender. The results obtained are presented in Table 4.

Table 4

T-test Results for Teacher Autonomy by Gender and Education Status

		n	$\bar{x}$	Sd	df	t-Test	p
Gender	Female	232	4.720	.3217	346	2.477	0.01*
	Male	116	4.620	.3735			
Education Status	Undergraduate	255	4.684	.3540	346	-.268	0.78
	Graduate	93	4.695	.3110			

*p<.05

According to the independent sample t-test results, there was a statistical difference between the teacher autonomy scores of female and male teachers [t(346)= 2.47, p<.005]. According to these findings, it was observed that autonomy scores ($\bar{x}_{female}$= 4.72, SD_{female}= .32; $\bar{x}_{male}$= 3.62, SD_{male}= .37) of female teachers were higher than those of males. It is an expected finding that the level of autonomy of female teachers will show a significant difference in this profession, which is mostly preferred by women in Türkiye. In addition, according to the independent sample t-test results, there was no statistical difference between the teacher autonomy scores of undergraduate and graduate teachers [t(346)= -.26, p<.005]. According to this finding, it can be concluded that the level of education does not cause a significant difference in the autonomy of the teacher in the school and classroom.

4. Discussion and Conclusion

This research aimed to conduct a validity and reliability study of the "Teacher Autonomy Scale", which was developed to determine the autonomy levels of teachers in classrooms and schools. As a result of the exploratory factor analysis conducted on the data collected from 198 teachers working in the Küçükçekmece district of Istanbul Province, It was determined that 15 items in the scale had high loading values under a single factor. The factor loadings of the items in the unidimensional structure range from 0.644 and 0.853, explaining common variance ratios between .414 and .728, which were observed to vary. The 15 items in the single-factor scale explain approximately 58% of the total variance. The scale's Cronbach's Alpha internal consistency coefficient was calculated as 0.890.

After this stage, CFA was performed to interpret the model-data fit by the unidimensional factor structure. As a result of CFA, the fit indices results were χ^2/sd = 7109.021 p<0.01, RMSEA=0.112, SRMR = 0.094, CFI= 0.94, and TLI= 0.93. When the scale was examined, it was concluded that the two modifications made in the model fit of the scale were due to the use of similar concepts in the questions and accepting answers (Brown, 2015). After the modifications, the CFA fit index results were found as χ2/sd = 7109.021, p<0.01, RMSEA=0.096, SRMR=0.075, CFI=0.96 and TLI=0.95.

These findings obtained from CFA analyses show that TAS provides construct validity. Based on the findings from both EFA and CFA in this study, it is concluded that the single-factor of the 'Teacher Autonomy Scale' is a reliable, valid, and useful measurement tool. The use of the convenience sampling method and the fact that the data were obtained through an online data collection method can be stated as limitations of the study. In addition, considering the fact that it is not possible to collect data from the same participants again, the lack of content and criterion validity can also be included in the limitations of the study. Considering that measurement tools must not only show validity and reliability but also be practical, it is seen that the developed scale contributes to the literature as an alternative for researchers in terms of usability.

In this study, it was seen that teachers' perceptions of autonomy primarily develop within the framework of teachers' education duties and teaching duties and management duties, and a measurement tool that can measure these elements holistically in a single dimension was developed and presented to the literature (Parcerisa et al., 2022; Worth & Van den Brande, 2020). How each teacher experiences their autonomy can vary according to various variables, and the dimensions of teacher autonomy can also emerge as a government issue in education systems dominated by central administration. In systems where education is managed centrally, teacher autonomy is at risk with the increase in practices such as standardized tests, definition of common learning standards, and determination of how students will be taught and evaluated. However, trust-based regimes with high collective and institutional autonomy mitigate the effects of performative pressures on both teachers' sense of autonomy and their duties (Wermke & Höstfält, 2014). In this study, by examining the forms that define different qualities of teacher autonomy that may emerge in time and space, a scale focused on the teaching and management duties of the teacher was developed without the need for detailed definitions that make teacher autonomy much more complex.

Although the level of teacher autonomy is expected to be limited in centralized education systems, teachers' readiness levels for their current teaching levels should also be high. The effectiveness of positive regulations regarding teacher autonomy in the education system is directly proportional to how ready teachers feel in this regard. It is clear that granting unlimited autonomy to teachers in a system where the majority of teachers are unfamiliar with the concept of autonomy, are not innovative, and are reluctant to take responsibility and authority will not produce beneficial results and will even lead to more negative results (Üzüm, 2014).

Therefore, understanding student teachers' perspectives on the environment they will work in and decision-making processes is important to observe whether they are ready for teacher autonomy (Kartal & Balcıkanlı, 2019). The results of the studies by Pan (2023) and Pearson and Moomaw (2005) show that teachers with more autonomy experience less work-related stress. Teachers are seen as a source of information and an important asset for students in terms of using students' autonomous capacity. For students to progress towards greater autonomy, they need to be supported by autonomous teachers (Ming & Alias, 2007). Teachers themselves need to be autonomous for students to be successful in teaching (Kartal & Balcıkanlı, 2019). As Little (1995) put it: “Successful students have always been autonomous. The same is true of teacher autonomy. Truly successful teachers have always been autonomous in the sense of having a strong sense of personal responsibility for their teaching, exercising the greatest possible degree of emotional and cognitive control of the teaching process through constant reflection and analysis, and exercising the freedom this affords” (p. 179).

Teacher autonomy is multifaceted, depending on the different structural characteristics of countries' education systems, the general conditions of schools, and the personal characteristics of the teacher (Çalışıcı Çelik & Atik, 2020). While developing this scale, which will contribute to the field by making the perception level of teacher autonomy more concrete and simplified, the most basic and concrete duties of teachers were taken as basis. TAS is a valid and reliable scale that can be used to determine the level of autonomy of teachers at every stage of education and in every field of teaching. According to the levels of autonomy of teachers determined in the classroom and throughout the school during the education process, policy makers in the central administration will be able to obtain important findings that will determine new policies regarding the limits of the level of autonomy of teachers. In addition, research conducted on this subject will contribute to teachers questioning their current levels of autonomy while performing their professions, and awareness will develop regarding the necessity of developing and innovative applications regarding the benefits and requirements of the importance of teacher autonomy in terms of school administration.

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Article Information Form

Conflict of Interest Disclosure: No potential conflict of interest was declared by the author.

Artificial Intelligence Statement: No artificial intelligence tools were used while writing this article.

Plagiarism Statement: This article has been scanned by iThenticate.

Appendix A. Turkish Form of Teacher Autonomy Scale

ÖĞRETMEN ÖZERKLİĞİ ÖLÇEĞİ

Verilen ifadelerden her bir madde için uygun bulduğunuz kutucuğu X ile işaretleyiniz.		Kesinlikle Katılmıyorum (1)	Katılmıyorum (2)	Kararsızım (3)	Katılıyorum (4)	Tamamen Katılıyorum (5)
1	Öğretmen, öğretim yöntemlerini/stratejilerini belirleyebilmelidir.					
2	Öğretmen, sınıf içi öğretim yaklaşımlarını belirleyebilmelidir.					
3	Öğretmen, öğretim için uygun yöntem ve teknikleri seçebilmelidir.					
4	Öğretmen, öğretimde uygun gördüğü materyalleri kullanabilmelidir.					
5	Öğretmen, sınıfın kullanım şeklini belirleyebilmelidir.					
6	Öğretmen, sınıftaki davranış kurallarını belirleyebilmelidir.					
7	Öğretmen, dersteki özerk öğrenci davranışlarını destekleyebilmelidir.					
8	Öğretmen, öğretim sürecinde değişiklik yapabilmelidir.					
9	Öğretmen, uygun gördüğü ölçme ve değerlendirme yöntemlerini kullanabilmelidir.					
10	Öğretmen, sınıf içi öğretim zamanını özgürce kullanabilmelidir.					
11	Öğretim süreçlerine ilişkin sorunların çözümünde öğretmenler öncelikli söz sahibi olmalıdır.					
12	Öğretim programları, öncelikle öğretmen görüşleri dikkate alınarak planlanmalıdır.					
13	Öğretmenler meslekleriyle ilgili kararlar alınırken öncelikli söz sahibi olmalıdır.					
14	Okul düzeyindeki her karara öğretmenler dahil edilmelidir.					
15	Yönetim süreçlerine öğretmenler dahil edilmelidir.					