Social Skills Scale Development Study

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Abstract

The aim of this study is to develop a scale for assessing teachers' social skill levels. A total of 1064 teachers, including 243 kindergarten teachers, 465 primary school, 67 social studies, 113 Turkish teachers, 80 science teachers, 96 mathematics teachers, participated in the research voluntarily. "Social Skills Scale (SSS)" consists of a 5-point Likert type consisting of 36 items. As a result of the factor analysis varimax transformation, the scale items are collected under seven sub-dimensions and explain 54.73% of the total variance. The sub-dimensions determined are named as: 1) Social cohesion 2) Self-control 3) Verbal communication 4) Cooperation 5) Participation 6) Nonverbal communication 7) Conflict resolution.

Keywords: Social Skills, Teacher, Scale Development, Validity, Reliability

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Introduction

Accepted by the society, facilitating social integration, initiating and maintaining communication in the process of establishing positive communication and relations with people, verbal and nonverbal communication skills, conflict resolution skills in problem and conflict situations, self-control skills such as behavior, empathy and being open to criticism are social skills (Riggio, 1986). In addition, social skills can also be expressed as the individual's revealing appropriate behavior patterns in line with the goals set (Morgan, 1998).

Social skills consist of learned behaviors. It is possible for the individual to be accepted socially and to have a positive attitude in interpersonal relations with the person's social skills. In the social development process, it has features such as developing and changing social skills in the changing social environment of the person, finding ways of positive interaction in interpersonal relations, developing appropriate behavior for events and situations, and appearing with verbal and nonverbal expressions. (Cartledge & Milburn, 1980).

It is one of the primary responsibilities of teachers to educate people who are part of the social functioning as individuals who are compatible with the society they live in and exhibit positive attitudes in interpersonal relations. The human power that provides social order and continuity can be trained through education. Social integration behaviors that can be gained through education can only be realized with teachers with advanced social skills. In addition to universal values, teachers should not remain unfamiliar with the cultural values and social structure of the society they belong to and should be a model in this regard (Bacanlı,1999).

Teachers are the most important people to ensure the social development of students (Eryaman, 2007; Pavri& Monda-Amaya, 2001; Smith & Smith, 2000). Teaching social skills is one of the skills that teachers should give students, especially starting from the pre-school period, considering the social and individual needs of students in all educational institutions.

While teachers support the social development of students, they also gain social skills for students. In this process, teachers become role models by demonstrating their own social skills inside and outside of the school. In addition, they can contribute both directly and indirectly by supporting social skills development in educational institutions, organizing appropriate activities using strategies and methods, and creating appropriate environments that will establish a ground for the transformation of these skills into behavior.

In teaching social skills, the teacher plays an important role in and outside the classroom with activities that support peer interaction, collaboration, problem solving, and the development of expression skills.

In the studies conducted, it is seen that teachers consider social skills teaching important and argue that social skills should be a part of the applied curriculum. Bain and Ferris (1991) include teachers' views on the priority of social skills education and its need to be included in education programs. In addition, studies that reveal teachers' lack of knowledge and experience in the field of social skills are included in the literature. In their study, Cheney and Barringer (1995) included the opinions of teachers about their individual deficiencies in the field of social skills and their inadequacy in supporting students' social skills. There are similar studies in which teachers expressed their deficiencies in the field of social skills (Lane & Wehby, 2002).

Teachers and families are among the most effective people who shape the social development of students. For this reason, it is important for teachers to have high social competencies and social skill levels individually and to grow up in dimensions that are deemed inadequate (Buchanan et al., 2009). Starting from this point of view, it is necessary to reveal primarily the social skill levels that teachers have individually in the process of social skill acquisition. In order to reveal teachers' social skills levels, "Social Skills Scale", developed by the researcher, is a measurement tool, and it is thought to contribute to the field with its features such as having up-to-date features, high validity and reliability. Teachers whose Social Skills level is revealed with this measurement tool, realize the dimensions they are sufficient or their deficiencies. By this means, they will be able to perform activities to increase their social skill levels with supportive studies in the areas they lack (Pınar, 2009).

When the international literature is examined, there are measurement tools for assessing the social skills of children and adolescents in the field of social skills, but there are no current studies to determine the social skills of adults and especially teachers (Teague, 2014). In this context, social skill levels can be measured with a measurement tool with high validity and reliability, which is updated and developed to evaluate the social skills of individuals in our country. Deficiencies can be identified and studies can be carried out to develop social skills.

Most of the measurement tools used in studies in the field of social skills in our country are not up-to-date and there are no measurement tools that reveal the social skill levels of adults and especially teachers. This fact reveals the importance of the measurement tool presented in the study.

Method

Descriptive survey model is used in the study. Descriptive survey, which tries to describe the events or situations by revealing the way they exist and with quantitative or qualitative research methods, constitutes the model of the study (Karasar, 2008). The development process of Social Skills Scale (SSS) has been carried out by following the stages which are preparation of scale items, conducting the content validity study of the items, performing trial application, conducting construct

validity and reliability studies of scale items. SPSS and LISREL programs are used for validity and reliability analysis of the study.

Sampling

It is considered appropriate that the sample size selected in scale development studies should be between 5 and 10 times the number of items determined. The research was applied to 1064 teachers working in public schools in Çanakkale city center and its districts. There are 244 preschool teachers, 453 classroom teachers, 111 Turkish teachers, 95 Mathematics teachers, 79 Science teachers and 72 Social Studies teachers.

It is stated that the number of samples to be selected from the range between 5000-50000 values should be at least 381 with an allowable error limit of 0,05 (Andersan & Arsenault, 1998). 1064 teachers from six different branches were determined by stratified random sampling. In determining the study group, it is based on the statements of Tabachnick and Fidell (2012), for factor analysis, a sample size of 300 is good, 500 is very good, and a sample size of 1000 is excellent. A sample size of 1000 has been reached. Random sampling without determining any probability refers to a stratified random sample selection where there are substrates and groups in a particular population (Pagano & Gouvreau, 1993).

A total of 1064 teachers voluntarily participated in the research, including 600 teachers in the first stage of the study and 464 teachers in the second stage. In the tables below, there are tables showing the sample numbers of teachers by branch, professional year and place of duty.

Table 1. Sample Numbers of Teachers According to Branches

Branch	Sample	
	N	%
Preschool Teacher	244	22.9
Classroom Teacher	463	43.5
Turkish Language	111	10.4
Social Studies	72	6.8
Sciences	79	7.4
Mathematics	95	8.9
Total	1064	100,0

Table 2. Sample Numbers of Teachers According to Years of Professional Duty

Precedence	Number of Teachers according to Years of Duty	%
1-10 years	262	24,6
10-20 years	457	43,0
+20 years	345	32,4
Total	1064	100,0

Table 3. Sample Numbers of Teachers According to Their Places of Duty

Place of Duty	Number of Teachers	%
Center of Çanakkale	468	44,0
Ayvacık	29	2,7
Biga	246	23,1
Gelibolu	124	11,7
Lapseki	87	8,2
Bayramiç	31	2,9
Çan	45	4,2
Yenice	34	3,2
Total	1064	100,0

Item Pool

Before the scale items appeared, the relevant literature was scanned, and Social Skills themed studies were carried out in Turkey and abroad. The behaviors that can be defined as Social Skills were determined and 124 items were included in the scale item pool under different sub-dimensions. The item pool, consisting of positive and negative examples, is submitted to the expert opinion to test the content validity. The scale is prepared in 5-point Likert type and it is scored as (1) Absolutely Disagree, (2) Disagree, (3) Undecided, (4) Agree, (5) Completely Agree.

Expert Opinion (Content Validity)

The scale items put forward by the researchers are submitted to expert opinion in order to evaluate the content validity. In line with the comments and suggestions of three faculty members in the field of Educational Sciences, two lecturers in the field of assessment and evaluation and three lecturers in the field of psychological counseling and guidance, and two teaching assistants from the department of Turkish language, the 87-item scale are made ready for application by removing some items from the 124-item pool.

Factor Analysis

During the development process of the Social Skills Scale, the factor structure of the scale is tested by Exploratory Factor Analysis and Confirmatory Factor Analysis. In the exploratory factor analysis, in order to reveal the conceptual structure of the scale, statistical processes including scale items are carried out in order to test items (Büyüköztürk, 2012). With Confirmatory Factor Analysis, the goodness of fit between the data of the scale and the factor structure is examined. For that purpose, x^2/sd, AGFI, GFI, CFI, RMSEA and SRMR values are examined and evaluations are made on how meaningful it is according to the fit index limits in the subtitle.

The draft scale created in this study was applied to 600 teachers in the first application, and exploratory factor analysis was made on the data obtained. In accordance with the analysis results, the final version of the scale was created with items that provide structure validity. In the second application, the final version of the scale was applied to 464 teachers and confirmatory factor analysis was made.

Reliability Calculation

The reliability of the scale was examined by calculating the Cronbach's Alpha reliability coefficients of all items and sub-dimensions of the scale, and by evaluating the Cronbach's Alpha coefficients and piece-whole correlations during the analysis of the data.

Findings

Generation of the Item Pool

In the study aiming to determine the social skill levels of teachers, social skill behavior expressions were tried to be determined. For that reason, interviews were made with 20 teachers from six different branches by asking open-ended questions on social skills. The related literature, national and international studies were scanned to form the Social Skills behavior statements. Many social skills behavior statements were determined in line with the opinions of field experts. While determining the behavioral expressions, social skills were tried to be contextualised with all dimensions.

The behavioral expressions revealed were reviewed in terms of content, simplicity and understandability and necessary corrections were made. Some items were removed and 124 items were determined. 124 items, created for the scale at the first stage, were presented to domain experts' opinions. The number of items was reduced to 87 items in line with expert opinions and recommendations. The Social Skills Scale (SSS) consists of two parts with 87 items related to personal knowledge and social skills behavior. In the first stage, SSS is applied to 600 teachers who are pre-school, classroom teachers, Turkish, Social Studies, Science and Mathematics teachers.

Table 4. Sample Number of Teachers by Branches

Branch	Sample	
	N	%
Pre-school Teacher	149	24.8
Classroom Teachers	257	42.8
Turkish Teachers	62	10.3
Social Studies	39	6.5
Science	41	6.8
Mathematics	52	8.7
Total	600	100.0

Findings Related to the Validity of the Scale

Exploratory Factor Analysis (EFA) is used to determine the factor structure of the scale and to examine the construct validity in this way. As a result of the Barlett test, it is determined that there is a relationship between variables subjected to (p=0,000<0, 05) factor analysis. As it can be seen in Table 5, as a result of the test it is determined that the sample size (KMO=,60 and over) is sufficient for factor analysis.

Table 5. KMO and Barlett's Test

Kaiser- Meyer-Olkin Measure of Sampling Adequacy		,912
Bartlett's Test of Sphericity	Approx. Chi Square	7513,987
	Df	630
	Sig	,000

As a result of the transaction, it is seen that among the 36 items in the scale; 7 items have a high load value in the first factor, 8 items receive high load value in the second factor, each 5 items have a high load value in the third factor, the fourth factor and the fifth factor, and each 3 items receive high load values in the sixth and seventh factors. It is determined that item factor loads of the scale items range from .47 to .84 and consist of 7 factors.
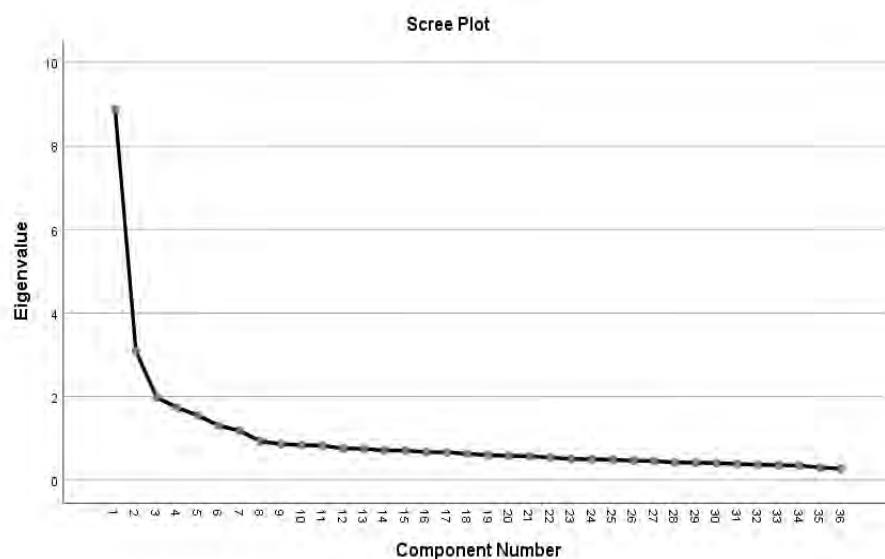
Figure 1.Social Skills Scale (SSS) eigenvalue scree plot

Table 6. EFA Results (Factor Loads of the Items of Social Skills Scale (SSS))

ITEM NO	SOCIAL COHESION	SELF CONTROL	VERBAL COMMUNICATION	COOPARATION	PARTICIPATION	NONVERBAL COMMUNICATION	CONFLICT RESOLUTION
I5/1	,69						
I36/2	,69						
I69/3	,68						
I56/4	,66						
I12/5	,64						
I14/6	,60						
I7/7	,52						
I53/8		,72					
I45/9		,69					
I49/10		,66					
I51/11		,63					
I39/12		,62					
I50/13		,59					
I72/14		,54					
I86/15		,47					
I4/16			,76				
I3/17			,73				
I2/18			,70				
I1/19			,51				

I16/20	,49					
I79/21		,76				
I66/22		,65				
I87/23		,63				
I78/24		,60				
I65/25		,56				
I80/26			,78			
I24/27			,68			
I81/28			,64			
I82/29			,62			
I23/30			,52			
I9/31				,84		
I6/32				,82		
I10/33				,53		
I43/34					,73	
I44/35					,64	
I38/36					,58	

**p<0.01

These factors explain 54.73% of the total variance. In the studies conducted in the field of Social Sciences, it is considered sufficient if the variance values explained by the scale items are over 50% (Kara, 2010).

When the items that make up the factors are examined in detail, the relevant areas of the factors are examined and evaluated. They are named as "Social Cohesion, Self-control, Verbal Communication, Cooperation, Participation, Nonverbal Communication, and Conflict Resolution".

While developing the Social Skills Scale, the factor structure of the scale is examined with the Explanatory Factor Analaysis. In the Explanatory Factor Analysis, factors are put forward by examining the connections between variables. It aims to evaluate whether the factors created and the variables examined in Confirmatory Factor Analysis are compatible with the data or not. Many fit statistics are used to evaluate the validity of the model in Confirmatory Factor Analysis (CFA). The most used of these are Chi-Square Goodress Test (x^2), Goodress of Fit Index (GFI), Adjusted Goodress of Fit Index (GFI), Rood Mean Square Residuals (RMR or RMS), and Rood Mean Square Errors of Appsoximation (RMSA). Pearson Coefficient of Correlation is used to calculate the correlations between scale scores.

It has been tried to determine whether there is a significant difference between the Social Skill Levels of the teachers according to gender, seniority, branch and the location of the school by using the necessary statistical tests. In the second phase of the study, Confirmatory Factor Analysis (CFA) is applied to examine the compatibility of the seven-factor structure, emerging with the Explanatory

Factor Analysis (EFA), with the data. It is determined by the confirmatory factor analysis whether the factors created by the Exploratory Factor Analysis are compatible with the factor structures proposed by the hypothesis or not. As a result of the CFA application, fit indexes are found as x²=1352,31 (sd=573,p<,001), (x²/sd)=2,35 RMSEA=,054, RMS/RMR=0,049 Standardized RMR=0,065 GFI=0,85 ve AGFI==,83. The coefficients of item-factor relationships calculated with CFA are shown in;

Table 7. Fit Indices of the Factor Structure of the Scale

Fit Indices	Adaptive Value
CMIN/DF	2,35
GFI	,859
CFI	,875
AGFI	,836
NFI	,803
RMSEA	,054
SRMR	,0652
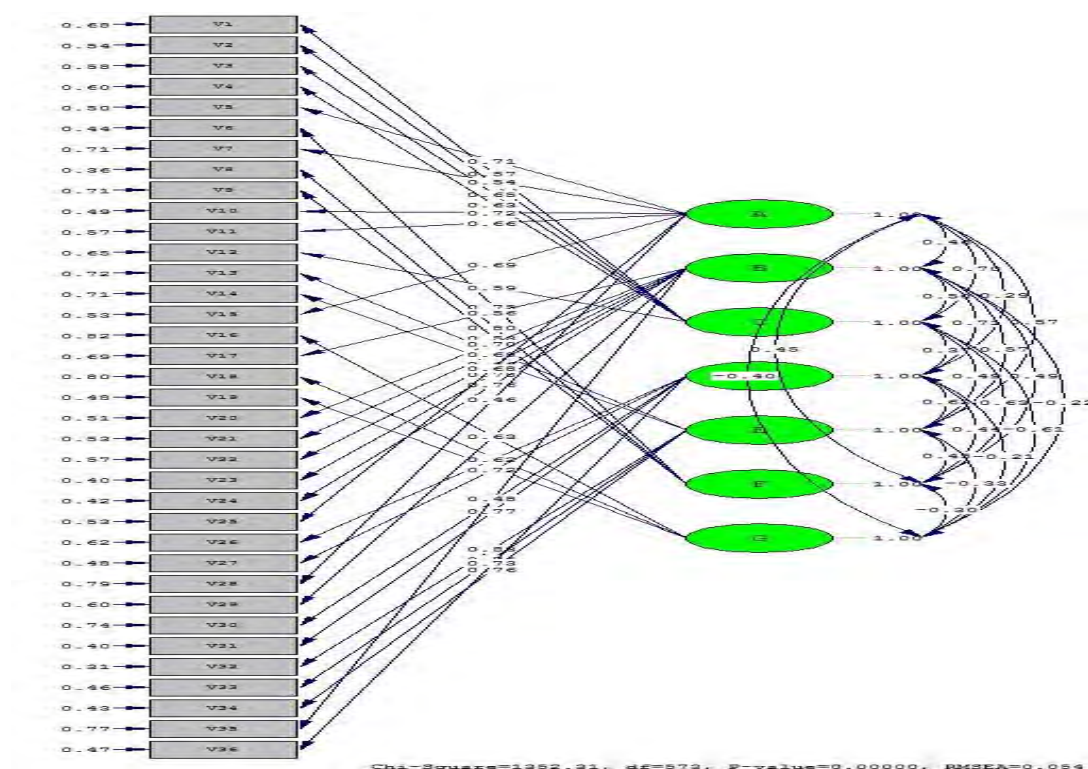
Figure 2. In Figure I, The relationships between the factors in the model and the items of the factors are schematized.

Lines extending from factors to the items and values on these lines state the influence quantity of the factors. The values on lines extending from outside to items express variance ratios that cannot be explained by items. When the relationship coefficients between the factors and the items,

belonging to the factors, are examined in Figure I, it is seen that the values of all items are greater than 30 and change between 0.46 and 0.88 in Figure I. The factor loads of the items in the 'Social Cohesion' factor are seen as 0.71-0.54- 0.72-0.66-0.69-0.68-0.46. It is seen that all the relationships between factor and item are meaningful at 01 level.

It shows acceptable perfect fit if Chi-square statistic is $x^2/df <2$, and shows acceptable fit if Chi-square statistic is $x^2/df<3$. (Kelloway, 1998) In Goodness of Fit index (GF) and Comparative Fit Index (CFI), values of 0.90 or higher indicate acceptable fit. Root Mean Square Error OF Approximate (RMSEA) values between 0 and 10 determine acceptable values (Bryne, 2001; Stevens,2001).

Findings Related to the Reliability of the Scale

In order to determine the reliability of the scores, obtained with the Social Skills Scale (SSS) so as to determine the accuracy of the measurement, Cronbach alpha internal consistency coefficient of all scale items and sub-dimensions is examined. Alpha values, as indicated in Table 8 below, are, 87 for the whole scale. For the factors, it is seen that they take values between, 50 and, 84. Having a value higher than 30, item-total correlations show that the reliability of the scale items is high (Büyüköztürk, 2012). As a result of the findings, it is concluded that the internal consistency coefficients of the scale items and factors are sufficient, and coherent measurements are made.

Table 8. Social Skills Scale (SSS) Internal Consistency Levels

Factors	Item Number	Cronbach's alfa
Social Cohesion	7	,840
Self-control	8	,829
Verbal Communication	5	,767
Cooperation	5	,718
Participation	5	,767
Nonverbal Communication	3	,719
Conflict	3	,502

Conclusion, Discussion And Recommendation

Since the desired value is specified as 1 in the KMO test, values close to this value are accepted as very good values. The achieved values should not be less than 0.50 (Tavşancıl, 2019). The KMO value of 0.912 obtained in the study shows that the data set is an excellent value for factor analysis. The value found as a result of the Bartlett test analysis was found to be significant (p<0.01). It was determined that the correlation between variables, which determines the suitability of the data set for factor analysis, is at a high level (Büyüköztürk et al., 2008).

The factor number of the scale was determined and factor analysis was repeated. The item factor load values of the factors were examined. The item factor loading value is required to be 0.45 and higher (Tabachnick & Fidell, 2012). Accordingly, an item which the factor loading value is under (0.45) was removed from the scale.

A measurement tool with high validity and reliability is developed so as to determine the social skill levels of teachers. 87 items in the item pool are applied. As a result of the evaluation of the obtained data by Exploratory Factor Analysis, items with factor loads below, 30 are removed from the scale. The 36-item scale is made ready to be applied in its final form. It is determined that 7 of the scale items have high load value on the first factor, 8 items have high load value on the second factor, and 5 items have high load value on the third, fourth and fifth factor, and 3 items have high load values on the sixth and seventh factors. Factor load values of scale items are expressed as, 60 and above as high, and, 30-50 as medium level (Kline, 2000). It is stated that a factor load value of 45 and above is a good measure. With the 36-item scale developed by Tabachnick and Fidell (2012), it is determined that the factor load values of the items take a good level. To determine the reliability of the scale, Cronbach's alpha reliability coefficients for all scales and dimensions were calculated. The reliability coefficient for the whole scale was found to be 0.87.

It was determined that 7 factors in the scale clarified 54.73% of the total variance. According to Büyüköztürk (2012), it should explain at least 30% of the total variance. In a scale with more than one factor, scale items should be able to explain 40% to 60% of the total variance (Çokluk et al., 2010). The factor loading values of the items in the scale vary between 0.47 to 0.84. If these values are significant, it means that there is a significant relationship between the observed and latent variables.

In the scale, there are seven items measuring the sub-dimension of social adaptation which can be expressed as social skills behavior indicators, 8 items measuring the dimension of 'self-control', 5 items measuring the dimension of 'Verbal Communication', 5 items measuring the dimension of 'Collaboration', 5 items measuring the 'Participation' sub-dimension, 3 items measuring the 'Nonverbal Communication' sub-dimension, 3 items measuring the 'Conflict Resolution' sub-dimension. In the study, it is concluded that the Social Skills Scale (SSS) consisting of 36 items and 7 sub-dimensions is a valid and reliable measurement tool for measuring the social skill levels of teachers.

Teachers who have the responsibility of being role models for students should have all the skills that should be gained to students through education. Therefore, they should have social skills especially themselves. It is very important for the new generation to make these gained skills a part of their own lives and the lives of students. In the literature, there are researches that measure and improve the Social Skills Levels of university students, pre-school, middle school and secondary

school education students (Fischer, 2004; Simons, et al., 1991; Humprey, et al., 2011; Seven ve Yoldaş, 2007; Phillipsen, et al., 1999; Aktı, 2011; Dicle, 2006). Program development studies to increase their social skill levels like (Durualp & Aral, 2010; Denham & Burton, 2003).

For example; Yalçın (2002), emphasizes the importance of social skill behavior in preschool in his study, in which he examines the Social Skills levels of preschool teachers, and focuses on the effect of social skill levels of teachers on the social skill acquisition process (Liman, 2017). However, studies evaluating the social skill levels of teachers are not taken place enough in the field. In the literature, there are more studies on students' social skills. Studies examining teachers' social skills and social skill behaviors are Uçar (2010), Winemiller (2006), Kara (2003), Hamarta (2009), Kılıç (2019), Warga (1996), Tepeli and Arı (2011), Novak, et al., (2016).

Before doing social skills training activities, it is necessary to make a diagnosis in order to determine their characteristics. However, as a result of these evaluations, realistic goals can be formed regarding what the person will learn in the future (Bacanlı, 1999; Goodwin, 1999; Gresham &Elliot, 2008; Kelly, 2017; Merrel & Gimpel, 1998; Strain & Odom, 1986).

The limitations of the application of the measurement tool, the subjective answers to the questions while answering the scale questions, the effects of perceptions and emotions on the answers given, affect these scales, which are used to convert them into numerical data and cause some errors (Avcıoğlu, 2007; Özgüven, 1994).

The most important result of the research is the development of a domestic measurement tool that can measure the social skill level of adults A new scale based on teacher evaluation has been added to the literature. It is thought that this scale, which was developed due to the lack of a scale for adults in the field of social skills, will encourage other scale development studies for the area. It is thought that the scale, which is an up-to-date measurement tool with high validity, reliability and developed to reveal the social skill levels of teachers, different from the social skill levels of students especially in this field, will contribute to the field.

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APPENDIX: Social Skills Scale (SSS) Sample Items

1. **English Version**

SOCIAL SKILLS SCALE (SSS)	Absolutely Disagree	Disagree	Undecided	Agree	Completely Agree
3) I am good at managing group discussions.					
14) When I encounter a problematic situation, I find a solution by thinking about the problem from different perspectives.					
20) I have difficulties in expressing my feelings.					
23) I avoid sharing information about my field.					
29) I participate in various activities outside of school with my students.					
31) I make eye contact while talking about a topic about myself.					
36) In the face of conflict, I submit to the situation and try to adapt.					

2. **Turkish Version**

Sosyal Beceri Ölçeği (SBÖ)	Hiç Katılmıyorum	Katılmıyorum	Orta Düzey Katılıyorum	Katılıyorum	Tamamen Katılıyorum
3) Grup tartışmalarını yönetmede başarılıyım.					
14) Problem teşkil eden bir durum ile karşılaştığımda problemi farklı açılardan düşünerek çözüm üretirim					
20) Duygularımı ifade ederken zorlanırım.					
23) Alanıma dair bilgi paylaşımından kaçınırım.					
29) Öğrencilerimle okul dışında çeşitli etkinliklere katılırım.					
31) Kendim ile ilgili bir konudan bahsederken göz teması kurarım					
36) Çatışma karşısında duruma boyun eğerim ve uyum sağlamaya çalışırım.					