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## A Scale Development Study to Determine Preschool Teachers' Perception of Gender Roles in the Classroom

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<b>Article history</b>	<p>The aim of this study is to develop an in-class gender role perception scale for preschool teachers. The study group of the research consists of 493 pre-school teachers working in independent kindergartens, kindergartens within primary schools and kindergartens within secondary schools in Nevşehir, Kırşehir, Niğde and Aksaray provinces of Turkey. The content validity of the scale was ensured by expert opinions. Construct validity was ensured by both exploratory and confirmatory factor analyses. KMO and Bartlett tests were used to determine the suitability of the created items for factor analysis, and these tests were found to be significant at the <math>p &lt; .05</math> level. With the factor analysis performed to reveal the factor structure of the scale items, a structure consisting of 4 sub-dimensions and 42 items was determined: "general gender discourses in fairy tales and stories, gender role characteristics, gender-specific behavioral reactions and gender". In the reliability analysis of the scale items, Spearman-Brown and Guttman Split-Half reliability coefficients were calculated and these coefficients were found to be suitable for all sub-dimensions. Cronbach's Alpha (<math>\alpha</math>) values were calculated and the resulting coefficient value was found suitable for reliability. Confirmatory factor analysis was performed and the fit indices confirmed the structure created by the factor analysis.</p>
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### Introduction

Teachers, who are the most important planners and implementers of educational life, begin to play an important role in children's lives when they start school. With pre-school education, children start to replace their parents as their role models with their teachers (Duffy et al., 2001). Teachers' behaviours, what they say, and their expectations affect the behaviours, attitudes and perceptions of girls and boys (Acker, 1994; Bailey, 1993; Barrie, 1993; Tiedemann, 2002; as cited in Acker et al. Birey & Beyidoğlu Önen, 2013). For this

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reason, teachers are in a position to influence individuals who are prepared for the roles of femininity and masculinity (Duffy et al., 2001).

Teachers consciously or unconsciously reflect their ideas about gender roles in the classroom environment. In this context, it is seen that teachers reinforce behaviours that match their gender role expectations and react negatively to behaviours that do not (Filiz Ünser, 2019). Although teachers do not explicitly discriminate between boys and girls in the educational environment, they create differences in the context of gender roles through the language they use, their communication styles, discipline models, and the tasks and responsibilities they assign to children. In this context, children are given explicit or implicit messages (Berekashvili, 2012; Logue & Harwey, 2009; Lynch, 2015; Meland & Kaltvedt, 2019).

Depending on the gender of children, teacher behaviours and communication styles may differ. For example, Erdena and Wolfgang (2004) found in their study that teachers used different discipline models for children due to their gender. It was stated that teachers tended to use more force on boys with maladaptive behaviours than on girls. In Meland and Kaltvedt's (2019) study, it was determined that teachers described boys as rude, reverse, and strict, while they characterised girls by their appearance. In addition, teachers named girls as princesses by making connections with the beauty of their hair, being sympathetic, and the beauty of their clothes.

Children's gaming activities may also cause different approaches of teachers in the context of their gender. When girls are involved in games that require a lot of movement, they do not receive very positive reactions from their teachers. On the contrary, when boys play games that are too active, they may cause positive reactions. In this context, playing games in accordance with gender roles in the traditional sense may be viewed positively by teachers (Logue ve Harwey ,2009; Lynch (2015). In their study, Logue and Harwey (2009) found that when girls played dramatic games, the teachers' intervention was quite low. In addition, teachers stated that somersaulting games, tumbling games, and games with superhero roles are suitable for boys, while games with less active home, family, and childcare roles are suitable for girls. Similarly, in Lynch's (2015) study, it was determined that teachers reflected their own prejudices about games to children's games, directed boys to games in line with traditional gender roles, and had opinions on the suitability of the dramatic play centre for girls to play games.

Boys and girls face different forms of discipline by their teachers in relation to their gender. In his study, Erden (2004) concluded that teachers, from a traditional perspective, supported girls to be more emotional and sensitive and treated them kindlier and gently. Similarly, studies have shown that teachers consider it normal for boys' behaviours such as being active, misbehaving, having adaptation problems, and fighting, while girls' behaviours such as being harmonious, sensitive, and quiet are considered normal (Morojele, 2011; Sayılan, 2012; Shen et al., 2009). In addition, the way teachers communicate with boys and girls provides them with implicit messages about gender roles. When teachers were asked about their behaviour towards boys and girls, they stated that they treat all children equally. However, practices and observations have shown that teachers often exhibit different behaviour and communication styles to children according to their gender (Renzetti & Curran, 2003; Sadker & Sadker, 1991; as cited in Almutawa, 2005).

The principle of ensuring equal opportunities in education is tried to be realised through various activities. In addition to being guaranteed in our Constitution, the Convention on the

Rights of the Child, the United Nations Convention on the Elimination of All Forms of Discrimination against Women and the Beijing Declaration are among the internationally signed conventions. In this context, our country has accepted to take necessary measures for gender equality with the signed conventions and with our constitution (Sayılan, 2012).

The adoption of the aforementioned measures also places responsibilities on teachers to prepare environments that ensure gender equality and all kinds of development of children regardless of their gender. It is not possible for teachers with traditional gender perceptions to provide an equal educational environment for children in their classrooms. In this respect, firstly, teachers' perceptions of gender roles should be determined and teachers should gain awareness. If the aforementioned awareness is achieved, an equal classroom atmosphere independent of gender roles can be created (Tantekin Erden, 2016).

In this context, the preschool period, in which the steps of socialisation are taken, and a rapid development process is experienced, is shaped by the behaviours, discourses and approaches of teachers. If teachers are not aware of their perceptions and beliefs about gender roles in the classroom, if the traditional gender role perception does not disturb them, it can be said that teachers have a traditional perception in this regard. Teachers, who take gender equality into consideration in their activities, treat children equally regardless of their gender, do not restrict learning centres in the classroom according to children's gender and do not include gender-based materials in these centres; will be a model for children. First of all, it is important to create awareness in order for teachers to provide the aforementioned conditions. In order to create this awareness, a measurement tool is needed to determine how preschool teachers' perceptions of gender roles are in the classroom environment. When the studies conducted abroad on the subject were analysed; it was determined that studies such as teachers' gender role beliefs in terms of adult individuals and its effect on children's gender roles (Cahill & Adams, 1997), teachers' views on gender stereotypes, beliefs and attitudes (Chen & Rao, 2011; Frawley, 2005; Meland & Kaltvedt, 2019; Varin & Adriany, 2017; Wingrave, 2018) were conducted. In the studies conducted in our country, studies were conducted at different stages of education, with children and prospective teachers of different age groups (Ata Doğan et al., 2018; Bayramoğlu, 2015; Koyuncu Şahin et al., 2018; Özkan, 2009; Ünlü, 2012; Yağan Güder, 2014; Yağan Güder & Alabay, 2016; Yağan Güder & Güler Yıldız, 2016). The lack of a large number of studies on the preschool period and the lack of a measurement tool to reveal the gender roles of preschool teachers in the classroom environment led the researcher to work on this issue.

It is thought that the measurement tool developed by the researcher to reveal the gender roles of preschool teachers in the classroom environment will be useful for future studies. With the developed measurement tool, preschool teachers' perceptions of gender roles in the classroom will be determined and it is predicted that teachers' awareness levels on the subject will increase. With the acquisition of this awareness, it is thought that teachers, who have an important place in children's lives, can contribute to the ability of children, who will be the adults of the future, to adopt a feature attributed to men and women depending on the conditions they encounter and to have egalitarian views in the context of gender roles. In this direction, the aim of the study is to develop a measurement tool to reveal the perceptions of preschool teachers about gender roles in the educational environment.

Within the scope of the research questions about the validity and reliability of the scale aiming to reveal preschool teachers' perceptions of gender roles in the classroom environment were sought to be answered.



## **Method**

The study, which aims to develop a scale to determine preschool teachers' perceptions of gender roles in the classroom environment, is in a quantitative research design and a survey model. Within the scope of the study, the processes followed for the scale development are given.

### ***Research Group***

The research group consists of preschool teachers working in institutions under the Ministry of National Education in Nevşehir, Niğde and Aksaray provincial centres of Türkiye during the 2017-2018 academic year.

When the literature is analysed, it is seen that the opinions on the sample size in the scale development process show diversity. While Nunnally (1978), Kline (1994) and Şencan (2005) argued that the sample size should be 5-10 times the number of items, Hoe (2008) stated that it would be sufficient to have more than 200 people in the study group. In this context, 560 teachers constitute the study group for the 70-item scale form in its draft form. However, the study was completed with a total of 493 teachers, excluding the teachers who did not accept to participate in the study, the teachers who were not at school and the incorrectly coded forms on the data collection date. The Kaiser Mayer Olkin (KMO) test was also used to determine the adequacy of the sample size in the study, and the value obtained from this test revealed that the sample size was suitable for factor analysis.

### ***Development of the Data Collection Tool***

As the first stage of the scale development study, the literature was reviewed, and the related studies were analysed. An item pool was prepared by designing a large number of items that would be related to the subject being studied. A form was prepared for each item, with the options "acceptable", "should be corrected", "should be removed" and "suggestions". In order to ensure the content validity of the scale items, the items were submitted to the opinions of experts working in the fields of gender, sexual development, sexual education and scale development. Experts marked the option they deemed appropriate for each item and added the corrections and suggestions they deemed necessary. All expert opinions were considered and examined on an item-by-item basis. The scale was evaluated by making the necessary arrangements in line with the expert opinions and the scale consisted of 75 items. In order to determine the comprehensibility of the items in the draft form, a pre-application was carried out with a group of 35 teachers. As a result of the preliminary application, the incomprehensible items were removed in line with the opinions obtained from the preschool teachers and the form consisting of 70 items was obtained. The form was formed in the format of a 5-point Likert-type rating scale.

### ***Collection and Analysis of Data***

The data were collected by the researcher himself by visiting the schools where the teachers worked. As a result of the examinations, the forms with missing data and incorrectly marked forms were removed. Exploratory factor analysis (EFA) was conducted using the SPSS 23 programme and the Confirmatory Factor Analysis (CFA) was conducted using the Amos 22 programme. In order to test the construct validity of the data, the Kaiser-Meyer-Olkin (KMO) test and the Bartlett Sphericity tests were applied. It is used to test the suitability of the data file for factor analysis. The Bartlett Sphericity test also provides information about sphericity and multivariate normal distribution. The Varimax Rotation

Technique was used in order to make the factors more comprehensible and easier to interpret. The Confirmatory Factor Analysis (CFA) was conducted to test the factor structure that emerged as a result of the Exploratory Factor Analysis. With this analysis, the conformity of the fit index values accepted in the literature was tested. For the reliability of the scale, the Cronbach Alpha coefficient was calculated for its internal consistency.

### ***Ethical Aspects of the Research***

Within the scope of the study, the ethics committee approval of Hacettepe University Scientific Research and Ethics Committee dated 15.08.2017 and numbered 35853172/433-2944 was obtained.

## **Findings**

### ***Findings Related to the Construct Validity***

The Principal Component Analysis was performed to test the construct validity of the measurement tool. In this context, it was evaluated whether the data set was suitable for analysis. In the literature, it is seen that there are various opinions to determine the sample size in the measurement tool development process. Comrey and Lee (2013) stated that at least 300 and above would be a good level and 1000 would be an excellent level. Kline (1994) and Hoe (2008) reported that a study group of 200 people is sufficient. Kass and Tinsley (1979), Nunnally (1978) and Şencan (2005) stated that the sample size should be 5-10 times the number of items. In addition, the Kaiser-Meyer-Olkin (KMO) coefficient was used to determine the adequacy of the sample size. As a result of the analysis, the coefficient was calculated as 0,875. The fact that this value is above 0,8 indicates that the sample size is sufficient (Comrey & Lee, 2013; Çokluk et al., 2018; Şencan, 2005). The Bartlett's Sphericity test was used to determine the suitability of the data for EFA and the test was found to be significant ( $\chi^2(861)=7900,586$ ;  $p \leq 0,05$ ). Çokluk, Şekercioğlu, and Büyüköztürk (2018) suggest that at least two of the specified criteria should be fulfilled in determining the sample size. In line with these opinions, it can be stated that the study was handled in accordance with the specified criteria.

Factor rotation procedures were performed with EFA. The Varimax Rotation Technique was used to facilitate the study and to obtain significant results (Altunışık et al., 2007; Çokluk et al., 2018). In the literature, it is stated that in addition to the loadings of the items being 0,45 or above, a small number of items with an item loading of 0,30 can also be accepted (Çokluk et al., 2014; Büyüköztürk, 2014). In this context, with the EFA, those with factor loadings lower than 0,30 were eliminated from the scale items.

Table 1 shows the explained results of the total variance values of the scale.

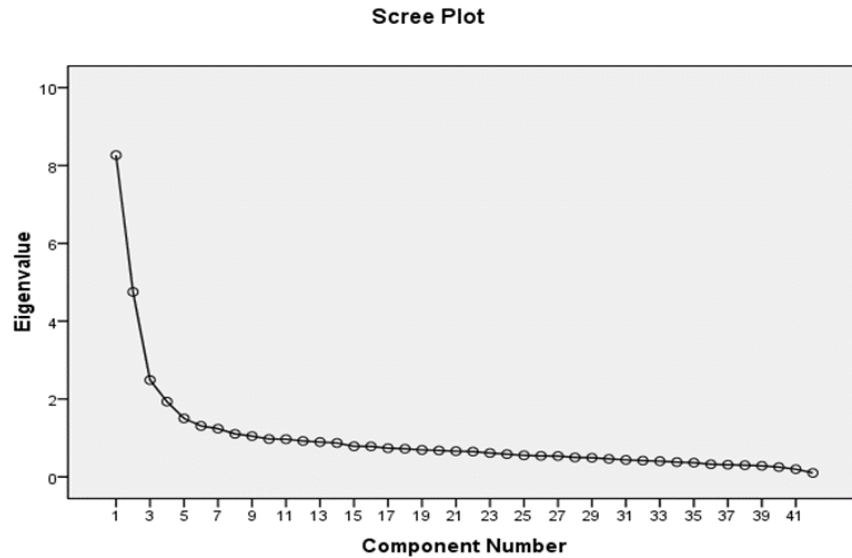
**Table 1.** Explained Results of the Total Variance

Factor	Explained Variance (%)	Cumulative Explained Variance (%)
1	14,56	14,56
2	12,11	26,66
3	7,99	34,65
4	6,86	41,52

In Table 1, four factors (dimensions) with an eigenvalue more than 1 were identified. It was determined that all factors explained 41,52% of the Total Variance. It is recommended to



consider the scree plot when deciding the number of factors belonging to the scale (DeVellis, 2014).



**Figure 1.** Scree Plot Graph (Scree Plot)

In the graph shown in Figure 1, the value indicated on the vertical axis explains the eigenvalue and the value indicated on the horizontal axis explains the component number. When the figure is analysed, it is seen that the scale takes values less than 1 after the fourth factor. The factors obtained from this point onwards cannot be distinguished (Aksu et al., 2017). The number of factors revealed through the eigenvalues is 4 and the scree accumulation graph also supports this. Table 2 shows the factor loading values.

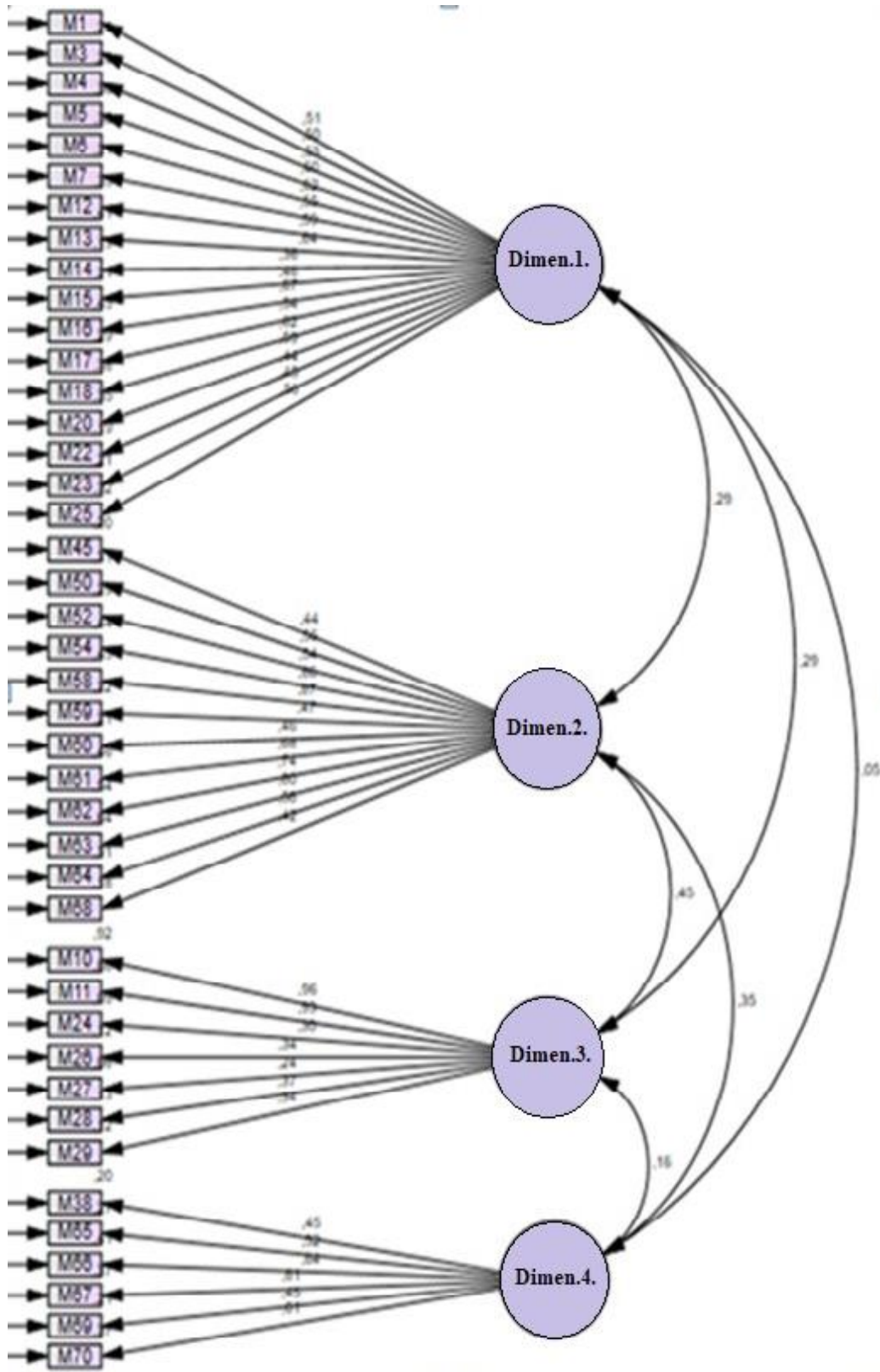
**Table 2.** Rotated factor loading values

Items	Factors			
	1	2	3	4
Item 16		0,692		
Item 5		0,692		
Item 4		0,659		
Item 6		0,657		
Item 1		0,655		
Item 18		0,641		
Item 3		0,631		
Item 13		0,618		
Item 12		0,604		
Item 7		0,599		
Item 20		0,554		
Item 25		0,547		
Item 17		0,533		
Item 15		0,482		
Item 23		0,466		
Item 22		0,412		
Item 14		0,385		

Item 62	0,800	
Item 63	0,783	
Item 61	0,779	
Item 58	0,703	
Item 54	0,679	
Item 52	0,563	
Item 59	0,561	
Item 50	0,545	
Item 64	0,530	
Item 60	0,508	
Item 68	0,412	
Item 45	0,407	
Item 10		0,640
Item 11		0,628
Item 24		0,610
Item 28		0,609
Item 29		0,606
Item 26		0,595
Item 27		0,499
Item 70		0,777
Item 69		0,705
Item 66		0,663
Item 67		0,612
Item 65		0,581
Item 38		0,530

According to Table 2, with the Varimax Axis Rotation Technique, it is seen that the first dimension consists of 17 items with factor loadings ranging from 0,385 to 0,692, the second dimension consists of 12 items with factor loadings ranging from 0,407 to 0,800, the third dimension consists of 7 items with factor loadings ranging from 0,499 to 0,640, and the fourth dimension consists of 6 items with factor loadings ranging from 0,530 to 0,777. According to the results of the analyses, it can be stated that the "Preschool Teachers' Classroom Gender Perception Scale" consists of 42 items under 4 factors. In the literature, the labelling of the factors of the scale can be done according to different methods. Naming by considering the common points expressed by the items under the factors is one of these methods (Altunışık et al., 2007). In this context, the sub-dimensions were named according to the items that were loaded on them. The first dimension was named as "General Gender Discourses", the second dimension as "Gender Role Characteristics", the third dimension as "Gender Specific Behavioural Reactions" and the fourth dimension as "Gender in Tales and Stories".

CFA is performed to verify the construct validity of the factors that emerged as a result of the procedures performed with EFA (Seçer, 2017). Figure 2 shows the model formed by CFA and the relationship between the dimensions and the items.



Dimen.:dimension

Figure 2. DFA path diagram



After the model was created as a result of the analysis, the T-values and the factor loading values regarding the relationship between the dimensions were analysed (Table 3).

**Table 3.** Factor Loadings and T-Values of the Scale

Item	Dimensions	T-Values
Item 25	Dimension 1	12,771
Item 23	Dimension 1	9,996
Item 22	Dimension 1	9,583
Item 20	Dimension 1	13,482
Item 18	Dimension 1	14,339
Item 17	Dimension 1	12,131
Item 16	Dimension 1	15,991
Item 15	Dimension 1	10,17
Item 14	Dimension 1	7,693
Item 13	Dimension 1	14,874
Item 12	Dimension 1	13,665
Item 7	Dimension 1	12,441
Item 6	Dimension 1	14,223
Item 5	Dimension 1	13,785
Item 4	Dimension 1	11,929
Item 3	Dimension 1	11,197
Item 1	Dimension 1	11,332
Item 68	Dimension 2	9,09
Item 64	Dimension 2	12,286
Item 63	Dimension 2	20,119
Item 62	Dimension 2	17,796
Item 61	Dimension 2	15,639
Item 60	Dimension 2	10,085
Item 59	Dimension 2	10,303
Item 58	Dimension 2	15,789
Item 54	Dimension 2	15,449
Item 52	Dimension 2	11,981
Item 50	Dimension 2	12,551
Item 45	Dimension 2	9,612
Item 29	Dimension 3	7,648
Item 28	Dimension 3	8,199
Item 27	Dimension 3	5,216
Item 26	Dimension 3	7,661
Item 24	Dimension 3	6,715
Item 11	Dimension 3	25,022
Item 10	Dimension 3	26,337
Item 70	Dimension 4	12,167
Item 69	Dimension 4	8,633
Item 67	Dimension 4	12,255
Item 66	Dimension 4	12,482
Item 65	Dimension 4	9,811
Item 38	Dimension 4	8,856

It is stated that if the T-values obtained with CFA are above 1,96, they are significant at a level of 0,05, and if this value is above 2,56, they are significant at a level of 0,01 (Aksu et al., 2017; Çokluk et al., 2018). According to Table 3, when the T-values obtained are analysed, it can be said that all results are significant.



Table 4 shows the Goodness of Fit Indicators obtained by CFA.

**Table 4.** Goodness of Fit Statistics of Model

Fit Index	Value
$\chi^2$ /sd	1,688
RMSEA	0,037
CFI	0,926
GFI	0,900
IFI	0,927

In confirmatory factor analysis, fit indices are used to test the validity of the existing model. The  $\chi^2$  /sd value  $\leq 2$  indicates that the model shows an excellent fit (Tabachnick & Fidell, 2001). According to Table 4, it is seen that this value is 1,688 and this value shows that there is an excellent fit. The RMSEA (Root Mean Square Error of Approximation) fit index value, which expresses the root mean square error, should be  $\leq 0,08$  and this value was found to be 0,037. GFI (Goodness of Fit Index), IFI (Incremental Fit Index) and CFI (Comparative Fit Index) fit indices being  $\leq 0,90$  are indicators of a good fit, while obtaining results higher than 0,95 are indicators of a perfect fit (Hair et al., 2009). According to the table, it is seen that the GFI, IFI and CFI values express a good fit.

### *Findings Related to Reliability*

The reliability coefficients of each factor of the scale are given in Table 5.

**Table 5.** Reliability Coefficients of the Scale

Dimension	Cronbach $\alpha$	Guttman-Split Half	Spearman-Brown
1	0,859	0,844	0,852
2	0,857	0,882	0,882
3	0,772	0,743	0,758
4	0,747	0,735	0,735

The Cronbach  $\alpha$ , Guttman-Split Half and Spearman-Brown tests were used for the reliability analysis of the scale. Cronbach's  $\alpha$  value for the whole scale was 0,877. According to the table, Cronbach's  $\alpha$ , Guttman-Split Half and Spearman-Brown results of each factor were found to be more than 0,73. The reliability coefficient values of 0,70 and above are sufficient for the reliability (Büyüköztürk, 2014; Field, 2005; Nunnally, 1978). When the results of the analyses are evaluated, it can be stated that the scale satisfies the measurement purpose and can be used in this sense.

### **Discussion and Conclusion**

The study aimed to develop a measurement tool to determine preschool teachers' gender role perceptions in the classroom environment. EFA was applied to determine the factor structure of the scale and a 4-dimensional structure was obtained. The variance rate for the quality to be measured was calculated as 41,52%. It can be sufficient for the explanation rate of all factors to be more than 40% (Aksu et al., 2017; Büyüköztürk, 2014; Çokluk et al., 2018; Gül & Sözbilir, 2015; Şimşek, 2007; Topu et al., 2013). In addition, Büyüköztürk

(2014) states that when the factor explanation rate is 30% and more, it can be accepted, and the construct validity can be ensured. It is recommended to consider the Scree Plot in determining the number of factors (Aksu et al., 2017). In addition, factors cannot be distinguished when they have values below 1 (Aksu et al., 2017). In this context, when the graph was analysed, it was seen that the value was below 1 after the fourth factor, so it was decided that the number of factors should be four. This structure formed by the EFA was tested with CFA. It was determined that the  $\chi^2/sd$ , RMSEA, CFI, GFI, IFI fit index values obtained with CFA were compatible with the 4-factor structure of the scale (Kline, 1994; Sumer, 2000). It can be said that the 4-factor structure obtained was confirmed by the confirmatory factor analysis and it may be said that it is a valid measurement tool.

In order to determine the reliability of the scale, the Cronbach's  $\alpha$ , the Guttman-Split Half and the Spearman-Brown reliability coefficients were calculated. It can be said that the Cronbach's Alpha, the Guttman-Split Half and the Spearman-Brown reliability coefficients for all factors of the scale are generally sufficient for its reliability (Büyüköztürk, 2013; Erkuş, 2012; Field, 2005).

As a result of the study, a 5-point Likert-type measurement tool consisting of 42 items and 4 dimensions was developed (Appendix 1). The options numbered as 1, 2, 3, 4, 5 starting from 1 were scored as "strongly agree" 5 points, "agree" 4 points, "undecided" 3 points, "disagree" 2 points, "strongly disagree" 1 point. The items 24, 30, 31, 37, 41 and 42 were evaluated as reverse items since they contained negative expressions.

The minimum score that can be obtained from the Preschool Teachers' Perception Scale of Gender Roles in the Classroom is 42 and the maximum score is 210. In the first dimension of the scale, there are 17 statements including "general gender discourses". In this dimension, there are items such as "Boys are more disorganised, girls are more sensitive". The highest score that can be obtained from this dimension is 85 and the lowest score is 17.

There are 12 items in the second dimension determined as "gender role characteristics". Statements such as "Less active roles are more suitable for girls, boys are more likely to take part in leader roles" can be given as examples. The highest score of this dimension is 60 and the lowest score is 12.

The third dimension named as "Gender-specific behavioural reactions" includes sample statements such as "Girls should not be worried when they exhibit behaviours such as aggression, messiness, mobility; boys who play with dolls and kitchen equipment should be reacted negatively". This dimension consists of 7 items and the lowest score is 7 and the highest score is 35.

The fourth dimension called "Gender in fairy tales and stories" consists of 6 statements such as "Stories in which the girls character takes part in domestic and childcare roles should not be included. It should be considered normal for women to need a boy saviour in stories." consists of 6 similar statements. The lowest score that can be obtained from the dimension is 6 and the highest score is 30.

Low scores obtained from scale indicate that teachers' perceptions of gender roles have an androgenic structure and that they display flexible and equitable views in this direction; high scores indicate that teachers' perceptions of gender roles are gender-based in a way that supports the traditional view. It can be said that the reliability and validity procedures of the

scale as a result of various analyses indicate that the scale is sufficiently reliable and valid. In this context, it can be stated that the scale can be used in accordance with the purpose of development.

The developed scale can be applied to preschool teachers and teachers' classroom perceptions of gender roles can be analysed with different variables. Trainings on gender roles can be given to pre-school teachers or pre-school teacher candidates and the effectiveness of the training can be tested with scale; the activities and practices of pre-school teachers in their classrooms can be handled in line with gender perception and observations can be made and the relationship between the observations obtained and the teachers' responses to the scale can be discussed.

## Note

This article was produced from the first author's doctoral dissertation under the supervision of the second author.

## References

- Aksu, G., Eser, M.T. ve Güzeller, C. O. (2017). *Açımlayıcı ve doğrulayıcı faktör analizi ile yapısal eşitlik modeli uygulamaları [Structural equation model applications with exploratory and confirmatory factor analysis]*. Detay Edition.
- Almutawa, F. (2005). *Beliefs of pre-service teachers at the university of pittsburgh about gender roles and the role of teachers in relation to gender differences* (Doctoral dissertation). University of Pittsburgh, Pittsburgh.
- Altunışık, R., Coşkun, R., Bayraktaroğlu, S. ve Yıldırım, E. (2007). *Sosyal bilimlerde araştırma yöntemleri spss uygulamalı. [Spss applied research methods in social sciences]* Sakarya Edition.
- Ata Doğan, S., Atış Akyol, N., ve Güney Karaman, N. (2018). Opinions of 5-year-olds on Level of Gender Stereotype and Gender Roles at Home. *Gazi Journal of Educational Sciences*, 4(3), 53- 65. <https://dx.doi.org/10.30855/gjes.2018.04.03.004>
- Bayramoğlu, L. (2015). *Okul öncesi dönem çocuklarının cinsiyet rollerine ilişkin algularının incelenmesi [Examination of preschool children's perceptions of gender roles]*. (Unpublished master thesis). Doğu Akdeniz University, Gazimağusa, North Kıbrıs.
- Berekashvili, N. (2012). The role of gender-biased perceptions in teacher-student interaction. *Psychology of Language and Communication*, 16(1), 39–51. <https://doi.org/10.2478/v10057-012-0004-x>
- Birey, T. ve Beyidoğlu Önen, M. (2013). *Toplumsal cinsiyet ve öğretmenlik: öğretmenlerin bakış açısı. [Gender and teaching: teachers' perspective]* POST.
- Büyüköztürk, Ş. (2014). *Sosyal bilimler için veri analizi el kitabı: İstatistik, araştırma deseni SPSS uygulamaları ve yorum [Data analysis handbook for social sciences: Statistics, research design SPSS applications and interpretation]*. Pegem Academy.
- Cahill, B. ve Adams, E. (1997). An exploratory study of early childhood teachers' attitudes toward gender roles. *Sex Roles*, 36, 517-529. <https://doi.org/10.1007/BF02766688>
- Chen, E.S.G. & Rao, M. (2011). Gender socialization in chinese kindergartens: teachers' contributions, *Sex Roles*, 64, 103–116. <https://doi.org/10.1007/s11199-010-9873-4>
- Comrey, A. L. & Lee, H. B. (2013). *A first course in factor analysis*. New Jersey: Psychology Press.
- Çokluk, Ö. Şekercioğlu, G. ve Büyüköztürk, Ş. (2010). *Sosyal bilimler için çok değişkenli istatistik spss ve lisrel uygulamaları [Multivariate statistics spss and lisrel applications for social sciences]*. Pegem Academy.

- DeVellis, R. F.(2014). *Ölçek geliştirme kuram ve uygulamalar. (3. Baskı) [Scale development theory and applications. (3rd Edition) ]*. Nobel Edition.
- Duffy, J., Warren, K.,& Walsh, M. (2001). Classroom interactions: gender of teacher, gender of student and Classroom Subject. *Sex Roles*, 45, 579-593. <https://doi.org/10.1023/A:1014892408105>
- Erden, F. (2004). Early childhood teachers' attitudes toward gender roles and toward discipline, *Journal of Hacettepe University Faculty of Education*, 27, 83-90. <https://dergipark.org.tr/en/download/article-file/87799>
- Erdena, F. & Wolfgang, C. H. (2004). An exploration of the differences in prekindergarten, kindergarten, and first grade teachers' beliefs related to discipline when dealing with male and female students, *Early Child Development and Care*, 174(1), 3-1. <https://doi.org/10.1080/0300443032000103098>
- Erkuş, A. (2012). *Psikolojide ölçek ve ölçek geliştirme-I: Temel kavramlar ve işlemler. (1. Baskı)*. [Scale and scale development in psychology-I: Basic concepts and operations. (1st Edition) ]. Pegem Academy.
- Esen, Y. (2013). Hizmet öncesi öğretmen eğitiminde toplumsal cinsiyet duyarlılığını geliştirme amaçlı bir çalışma. [A study for developing gender sensitivity in pre-service teacher education], *Education and Science*, 38(169), 280-295. <https://egitimvebilim.ted.org.tr/index.php/EB/article/view/2066>
- Fagot, B.I. (1984). Teacher and peer reactions to boys' and girls' play styles. *Sex Roles*, 11, 691–702. <https://doi.org/10.1007/BF00288120>
- Field, A. (2005). *Discovering statistics using SPSS*. London: SAGE Publications Pvt Ltd.
- Filiz Ünser, A. (2019). *Investigation of gender role attitudes of early childhood and elementary education teacher candidates in terms of different variables* (Unpublished master thesis). Anadolu University, Institute of Educational Sciences, Eskişehir.
- Frawley, T (2005). Gender bias in the classroom: current controversies and implications for teachers. *Childhood Education*, 81(4), 221-227. <https://doi.org/10.1080/00094056.2005.10522277>
- Gül, Ş., ve Sözbilir, M. (2015). Thematic content analysis of scale development studies published in the field of science and mathematics education. *Education and Science*,40, 85-102. <http://dx.doi.org/10.15390/EB.2015.4070>
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2009). *Análise multivariada de dados*. Bookman editora.
- Hoe, S. L. (2008). Issues and procedures in adopting structural equation modeling technique, *Journal of Applied Quantitative Methods*, 3(1), 76-83. [https://ink.library.smu.edu.sg/sis\\_research/5168/](https://ink.library.smu.edu.sg/sis_research/5168/)
- Kass, R. A. ve Tinsley, H. E. A. (1979). Factor analysis. *Journal of Leisure Research*, 11, 120-138. <https://doi.org/10.1080/00222216.1979.11969385>
- Kline, P. (1994). *An easy guide to factor analysis*. Routledge.
- Koyuncu Şahin, M., Esen Çoban ve Korkmaz, A. (2018). Gender equality and its situation in the turkish education system: from the perspectives of preschool teacher candidates, *International Journal of Scientific Research*, 3(2), 735-752. <https://doi.org/10.21733/ibad.457232>
- Logue M. E. & Harvey, H. (2009). Preschool teachers' views of active play. *Journal of Research in Childhood Education*, 24(1), 32-49. <https://doi.org/10.1080/02568540903439375>
- Lynch, M. (2015). Guys and dolls: a qualitative study of teachers' views of gendered play in kindergarten. *Early Child Development and Care*, 185(5), 679-693. <https://doi.org/10.1080/03004430.2014.950260>

- Meland, A. T. & Kaltvedt, E.H. (2019). Tracking gender in kindergarten, *Early Child Development and Care*, 189(1), 94-103. <https://doi.org/10.1080/03004430.2017.1302945>
- Morojele, P. (2011). What does it mean to be a boy? implications for girls' and boys' schooling experiences in lesotho rural schools. *Gender and Education*, 23(6), 677-693. <https://doi.org/10.1080/09540253.2010.527828>
- Nunnally, J. (1978). *Psychometric methods*. McGraw Hill.
- Özkan, B. (2009). *Investigating sex- trait stereotypes of 5-6 aged early childhood children in the light of some variables*. (Unpublished master thesis). Marmara University Institute of Educational Sciences, İstanbul.
- Sadker, M., ve Sadker, D. (1994). *Failing at fairness: How America's schools cheat girls*. New York: Charles Scribner's Sons.
- Sayılan, F. (2012). Toplumsal cinsiyet ve eğitim-olanaklar ve sınırlar. [Gender and education-opportunities and limits]. F.Sayılan (Ed.), *Toplumsal cinsiyet ve eğitim içinde [in gender and education]*. (s.13-67). Dipnot.
- Seçer, İ. (2017). *SPSS ve Lisrel ile pratik veri analizi. (3. Baskı). [ Practical data analysis with SPSS and Lisrel. (3rd Edition)]*. Anı Edition.
- Shen, J., Zhang, N., Zhang, C. (2009). The impact of gender on chinese elementary school teachers' perceptions of student behavior problems. *New Horizons in Education*, 57(2), 17-31. <https://files.eric.ed.gov/fulltext/EJ860822.pdf>
- Streitmatter, J. (1994). *Toward gender equity in the classroom: Everyday teachers' beliefs and practices*. Albany: State University of New York. [http://www.netlibrary.com/ebook\\_info.asp?product\\_id=5948](http://www.netlibrary.com/ebook_info.asp?product_id=5948) .
- Sümer, N. (2000). Yapısal eşitlik modelleri: temel kavramlar ve örnek uygulamalar [Structural equation models: basic concepts and examples]. *Türk Psikoloji Yazıları, [Turkish Psychology Writings]*, 3(6), 49-74.
- Şencan, H. (2005). *Sosyal ve davranışsal ölçümlerde güvenilirlik ve geçerlilik [ Reliability and validity in social and behavioral measures]*. Seçkin Edition.
- Şimşek, Ö. F. (2007). *Yapısal eşitlik modellemesine giriş: temel ilkeler ve LISREL uygulamaları [Introduction to structural equation modeling: basic principles and LISREL applications]*. Ekinoks.
- Tabachnick, B. G.& Fidell, L. S. (2001). *Using multivariate statistics (Fourth edition)*. MA: Allyn& Bacon Inc.
- Tantekin Erden, F. (2016). Okul öncesi eğitim kurumları okul öncesi öğretmen ve toplumsal cinsiyet. [Pre-school education institutions, pre-school teachers and gender]S. Y. Güder ( Ed.), *Erken çocuklukta cinsel eğitim ve toplumsal cinsiyet içinde [In early childhood sexual education and gender]* (s.177-198). Eğiten Book.
- Topu, F. B., Baydaş, Ö., Turan, Z., ve Göktaş, Y. (2013). Common reliability and validity strategies in instructional technology research. *Çukurova University Journal of Education Faculty*, 42(1), 110-126. <https://dergipark.org.tr/en/download/article-file/46505>
- Ünlü, A. (2012). Investigation of gender role behavior of preschool children by some of the variables (Unpublished master thesis). Selçuk University, Konya.
- Wingrave, M. (2018). Perceptions of gender in early years. *Gender and Education*, 30(5), 587-606. <https://doi.org/10.1080/09540253.2016.1258457>
- Yağan Güder, S. (2014). *Investigating preschool children's perception of gender*. (Unpublished doctoral thesis). Hacettepe University, Ankara.
- Yağan Güder, S. ve Alabay, E. (2016). Examination of the toys preferences in children aged 3-6 in the context of gender. *Ahi Evran University Journal of Kirsehir Education*

Faculty (KEFAD),17(2), 91-111. <https://dergipark.org.tr/tr/download/article-file/1487603>

Yağın Güder, S. ve Güler Yıldız, T. (2016). Role of the family in preschool children's perception of gender. *Hacettepe University Faculty of Education Journal*, 31(2), 424-446. <https://doi.org/10.16986/HUJE.2016016429>

### Appendix 1:Okul Öncesi Öğretmenleri Sınıf İçi Toplumsal Cinsiyet Algı Ölçeđi

GENEL TOPLUMSAL CİNSİYET SÖYLEMLERİ		KESİNLİKLE KATILMIYORUM	KATILMIYORUM	KARARSIZIM	KATILYORUM	TAMAMEN KATILYORUM
1.	Kız çocuklar daha düzenlidir.					
2.	Kız çocuklar daha sakindir.					
3.	Erkek çocuklar daha dađınıktır.					
4.	Kız çocuklar daha hassastır.					
5.	Erkek çocuklar daha fazla gürültü yaparlar.					
6.	Kız çocuklar daha yardım severdir.					
7.	Erkek çocuklar fiziksel olarak daha aktiftir.					
8.	Kız çocuklar daha kolay ağlarlar.					
9.	Erkek çocuklar daha fazla dikkat sorunu yaşar.					
10.	Kız çocukların kurallara uyum sağlamaları daha kolaydır.					
11.	Erkek çocuklar daha fazla saldırganlık davranışı sergilerler.					
12.	Kız çocuklar daha çok takdir edilmeyi bekler.					
13.	Erkek çocuklar sınıf materyallerine daha çok zarar verir.					
14.	Erkek çocuklar daha fazla sistematik düşünme becerilere sahiptir.					
15.	Erkek çocuklar daha fazla tehlike oluşturacak davranış sergiler.					
16.	Kız çocuklar öğretmenine daha kolay bağlanırlar.					
17.	Kız çocuklar duygularını daha kolay ifade eder.					

<b>CİNSİYET ROL ÖZELLİKLERİ</b>		<b>KESİNLİKLE KATILMIYORUM</b>	<b>KATILMIYORUM</b>	<b>KARARSIZIM</b>	<b>KATILYORUM</b>	<b>TAMAMEN KATILYORUM</b>
18.	Erkek çocuklar daha çok lider rollerinde görev alırlar.					
19.	Etkinliklerde işbölümü yaparken kızlara masaları silme, erkeklere sandalyeleri taşıma görevleri verilmelidir.					
20.	Etkinliklerdeki rol dağılımlarında kız çocuklarına “öğretmen, hemşire” rolleri verilmelidir.					
21.	Etkinliklerdeki rol dağılımlarında erkek çocuklarına ‘asker, polis, mühendis’ rolleri verilmelidir.					
22.	Bloklar, legolar ve sınıf dışı faaliyetler erkek çocuklar için uygundur.					
23.	Müzik, dramatik oyunlar kız çocuklar için uygundur.					
24.	Kız ve erkek çocukların cinsiyetlerine göre oynayabilecekleri oyunlar ve oyuncaklar farklılık göstermemelidir.					
25.	Fen ve matematik etkinlikleri erkek çocuklar için daha uygundur.					
26.	Detaylı çalışma gerektiren faaliyetler kız çocuklar için daha uygundur.					
27.	Güç gerektiren etkinlikler erkek çocuklar için daha uygundur.					
28.	Daha az aktif olunacak roller kız çocuklar için daha uygundur.					
29.	Etkinliklerdeki rol dağılımları geleneksel cinsiyet rollerine uygun şekilde verilmelidir.					
<b>CİNSİYETE ÖZGÜ DAVRANIŞSAL TEPKİLER</b>		<b>KESİNLİKLE KATILMIYORUM</b>	<b>KATILMIYORUM</b>	<b>KARARSIZIM</b>	<b>KATILYORUM</b>	<b>TAMAMEN KATILYORUM</b>
30.	Kız çocuklar, saldırganlık, dağınıklık, hareketlilik gibi davranışlar sergilediklerinde endişe duyulmamalıdır.					
31.	Kız davranışı ve erkek davranışı ayrımı yapılmamalıdır.					



32.	Çocukların akranları arasındaki cinsiyetçi davranış ve söylemlerine müdahale edilmemelidir.					
33.	Kız çocuklarının yaramaz olması kabul edilebilir bir durum değildir.					
34.	Bebeklerle, mutfak gereçleriyle oynayan erkek çocuklara olumsuz tepki gösterilmelidir.					
35.	Kız çocuklar hata yaptıklarında daha hoşgörülü davranılmalıdır.					
36.	Erkek çocuklar, hassaslık, düzenlilik, sakinlik gibi davranışlar sergilediklerinde endişe duyulmalıdır.					
<b>MASAL VE HİKAYELERDE TOPLUMSAL CİNSİYET</b>		<b>KESİNLİKLE KATILMIYORUM</b>	<b>KATILMIYORUM</b>	<b>KARARSIZIM</b>	<b>KATILYORUM</b>	<b>TAMAMEN KATILYORUM</b>
37.	Kadın karakterin ev içinde ve çocuk bakımıyla ilgili rollerde yer aldığı öykülere yer verilmemelidir.					
38.	Hikayelerde kadın ve erkek kahramanların eşit oranda resmedilmesine dikkat edilmemelidir.					
39.	Hikayelerdeki kadın karakterler ev içinde ve çocuk bakımıyla ilgilenmelidir.					
40.	Hikayelerde kadınların bir erkek kurtarıcıya ihtiyaç duymaları olağan karşılanmalıdır.					
41.	Külkedisi, uyuyan güzel, rapunzel gibi toplumsal cinsiyet kalıpyargılarını içeren masallara yer verilmemelidir.					
42.	Erkek kahramanların geleneksel toplumsal cinsiyet rollerine uygun şekilde sunulduğu öykülere yer verilmemelidir.					

24, 30, 31, 37, 41 and 42 are items that should be reverse coded.