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Adaptation Of Global Parental Self-Efficacy Scale To Turkish Language: A Reliability And Validity Study

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Abstract: The present study aims to adapt the Global Parental Self-Efficacy Scale, which measures the parental self-efficacy of parents having children aged between 3 and 6 years, to the Turkish language and to test the reliability and validity of the scale. Within the scope of reliability and validity of the scale in the Turkish language, data were collected from 567 parents (317 mothers and 250 fathers). While Exploratory Factor Analysis and Confirmatory Factor Analysis (CFA) were used in testing the structural validity of the scale, the reliability was tested using Cronbach's alpha internal consistency coefficient. Given the results achieved from the Exploratory Factor Analysis, there was a 5-factor structure (discipline, nurturance, play, instrumental, and teaching), as with the original scale. The results achieved from the CFA showed that goodness of fit statistics showed an acceptable fit. Cronbach's alpha internal consistency coefficient was calculated to be 0.86 for all the items. Given the results achieved here, it can be stated that the Turkish version of the scale measuring the parental self-efficacy of parents having children aged between 3 and 6 years was reliable and valid. It can be used in future studies to understand the predictors of parental self-efficacy and to assess the parenting education programs to be developed.

Keywords: Preschool, Parent, Parental Self-Efficacy, Reliability and Validity

1. Introduction

Self-efficacy is defined as one's belief in his/her capacity to fulfill something. Self-efficacy is not related with an individual's genetics. Every experience affects the development of individuals' self-efficacy. Thus, self-efficacy develops continuously beginning from babyhood (Sander & Lopez, 2005).

As stated by Bandura (1977), an individual's decisiveness about overcoming a problem when faced with one and developing themselves on this subject is related with the sense of self-efficacy. All the successful experiences in the past of an individual affect the development of self-efficacy. Experiences, verbal persuasion, and emotional or physiological condition influence an individual's sense of self-efficacy. Self-efficacy and performance are two inseparable factors (Bandura, 1977). A correlation that is similar to the one between self-efficacy and performance is the correlation between self-efficacy and parenting. Although parenting is affected by many factors, previous studies showed that self-efficacy had a remarkable effect on being a good and successful parent (Bandura, 1977; Coleman & Karraker, 2000, p. 52).

Parental self-efficacy is defined by Coleman and Karraker (2000) as mothers and fathers' perception of exhibiting their positive skills on their children and making accurate estimations on this subject, whereas Jones and Prinz (2005) define it as mothers and fathers having specific tasks while parenting and their belief in fulfilling those tasks in the best way possible and Sanders and Lopez (2005) defined it as the ability to effectively solve problems that arise when becoming a parent and being able to handle problems.

Performance, experiences, and verbal persuasion are as important for parental self-efficacy sources as they are for self-efficacy. If a person has experience with childcare before becoming a parent, if his/her actions related with childcare are praised by a successful person, and if he/she is happy with his/her role as a mother/father, then his/her parental self-efficacy would be much higher (Montigny &Lacharite,2005; Mouton & Roskam, 2015).

Given the studies carried out before, it has been concluded that children of parents having a high level of parental self-efficacy had a reduced level of behavioral problems, a higher level of academic achievement, a higher level of lingual and speaking skills, a lower level of anxiety, higher ability to adapt easily and faster to social life, faster cognitive development, and a higher level of motivation (Ardelt & Eccles, 2001; Bubic et al.,2021; Junttila & Vauras, 2014; Kotil , 2010; Ogelman &Topaloğlu Çiftçi, 2014; Seçer & Ogelman, 2012).

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A high level of parental self-efficacy enables mothers and fathers to raise their children in a warmer and more positive environment, develop parental skills, be more effective in practice, and diverge from traditional parental roles. Parents having a low level of parental self-efficacy try to raise their children with suppressive and overprotective discipline. Suppressive and tough attitudes toward their children negatively affect the children from both behavioral and emotional aspects. Thus, children have behavioral problems (Demirdöven & Özyürek 2022, Hess et al., 2004; Meunier et al., 2011; Özdemir,2019; Tahmassian et al., 2011; Wittkowski et al., 2016; Yılmaz & Balat, 2014; Yurtsever Kılıçgün, 2017).

It can be seen in previous studies in general that parental self-efficacy and child development are interdependent. Individuals feeling confident about their self-efficacy are much more successful in terms of their children's development and more positive outcomes achieved in child development also constitute a factor increasing the parental self-efficacy. For those having low parental self-efficacy, it negatively affects the development of children. Parental self-efficacy of parents, who cannot educate their children as they wish, would inevitably decrease (Jones & Prinz, 2005: Wittkowski et al., 2016)

Although parental self-efficacy has undeniable positive effects on both parents and children, only a few scales could be found in studies carried out in Türkiye. The Self-Efficacy for Parenting Tasks Index (1-3 Years) was developed by Emde in the year 1989 and its adaptation to the Turkish language was performed by Elibol, Mağden, & Alpar (2007) on 401 mothers. Having the subdimensions of emotional efficacy, responding sensibly, nurturance, valuing, protection, discipline, play, teaching, daily tasks, and instrumental care, the scale is a 5-point Likert scale consisting of 51 items. Cronbach's Alpha coefficient was found to be 0.90.

The Family Resilience Scale was developed by Kaner (2007) as a 5-point Likert scale with 52 items. This scale has two subscales as efficient parenting and active participation in education. Internal consistency was found to be 0.92 for "efficient parenting", 0.86 for "active participation in education", and 0.93 for the total.

The Revised Berkeley Parenting Self-Efficacy Scale (BPSE-R) was developed by Susan Holloway in the year 2005 and adapted into the Turkish language by Balat Zembat, & Acar (2010). This scale was revised by Yıldız, Şahin, Haktanır, &Holloway (2021) with 354 mothers having preschool children. This scale has 18 items and 2 subscales as parental strategies and child outcomes. Cronbach's alpha coefficient of the scale was found to be 0.83 for "parental strategies", 0.87 for "child outcomes", and 0.91 for the total.

The Parental Self-Efficacy Instrument for Children with Disabilities was developed by Guimond, Moore, Aier, Maxon, & Diken (2005) and updated by Cavkaytar, Aksoy & Ardıç (2014) by using the data obtained from 219 parents having children with severe and moderate mental deficiencies. Consisting of a single dimension and 17 items, the scale has a Cronbach's alpha coefficient of 0.95.

The Self–Efficacy for Parenting Tasks was developed by Coleman and Karraker in the year 2000 and adapted into the Turkish language by Kotil in the year 2010. Its reliability and validity were tested on 300 mothers having 5-year-old children attending nursery class. The scale has 20 items and 5 subscales (achievement, recreation, discipline, health, and nurturance). It is a 6-point Likert-type scale and its Cronbach's alpha coefficient was found to be 0.78 for the total scale.

Since there are only few parental self-efficacy scales, reliability-validity studies were carried out by involving mothers only, they are specific to parents having children in a specific age group, and they need to be revised, it is necessary to test the reliability and validity of the Turkish version of the Global Parental Self-Efficacy Scale developed by Meunier and Roskam in the year 2009 for the parents having children aged between 3 and 7 years by involving both mothers and fathers in the study group. Thus, the present study aims to test if the "Global Parental Self-Efficacy Scale" is a reliable and valid measurement tool.

2. Method

Designed as a general survey, the present study is a scale development and reliability-validity study.

2.1. Study Group

The study group consisted of 567 parents living in central districts of Bursa province (Nilüfer, Osmangazi, and Yıldırım) and having children aged between 3 and 6 years. Of parents, 317 (55.9%) were mothers and 250 (44.1%) were fathers. Of the parents, 107 (18.9%) were aged between 20 and 30, 213 (37.6%) between 31 and 35, 157 (27.7%) between 36 and 40, 71 (12.5%) between 41 and 45, and 19 (3.4%) between 46 and 55. Considering the educational status of the parents in the study group, it was determined that 27 (4.8%) were elementary school graduates, 56 (%9.9) were

secondary school graduates, 113 (19.9%) were high school graduates, 96 (16.9%) had an associate degree, 212 (37.4%) ha ad bachelor's degree, and 63 (11.%1) had master's degree. Of the children of the parents, 138 (24.3%) were aged 3 years, 143 (25.2%) were aged 4 years, 142 (25%) were aged 5 years, and 144 (25.4%) were aged 6 years. Of the preschool children, 304 (53.6%) were girls and 263 (46.4%) were boys.

2.2. Data Collection Tool

The data collection tools used in the present study include personal information for parents and children and the Global Parental Self-Efficacy Scale adapted into the Turkish language.

2.2.1.Personal Information Form

The personal information form collects information about the age and educational level of parents and the age and gender of children.

2.2.2. Global Parental Self-Efficacy Scale (GPSES)

The short form of the Global Parental Self-Efficacy Scale, which was developed by Meunier and Roskam in the year 2009 in order to measure the self-efficacy of parents and validity and reliability of which were tested with 705 parents (385 mothers and 320 fathers) of 388 children aged between 3 and 7 years, was used in the present study.

Scored using a 5-Point Likert type rating between "Not Agreed at all" and "Totally Agreed", higher scores in this scale indicate a higher level of parental self-efficacy, whereas lower scores indicate a lower parental self-efficacy level. There are 7 items in the dimension "Discipline", 5 items in the dimension "Nurturance", 5 items in the dimension "Play", 5 items in the dimension "Instrumental Care", and 3 items in the dimension "Teaching" (25 items in total). Cronbach's Alpha coefficients were found to be 0.80 for "Discipline", 0.84 for "Play", 0.80 for "Nurturance", 0.81 for "Instrumental Care", and 0.61 for "Teaching", whereas that of the total scale was 0.77.

2.3. Procedure

For the adaptation of the Global Parental Self-Efficacy Scale into the Turkish language, Isabella Roskam who developed the scale was contacted via e-mail and asked for suggestions regarding the English version and scoring instructions.

Within the scope of the study, the "Global Parental Self-Efficacy Scale" (GPSES) and "Parent Information Form" were uploaded to digital media between February and March of the educational year 2020 via Google Forms, and the parents were contacted directly or via preschool teachers in media such as WhatsApp and Facebook. It was disclosed that the data to be obtained would never be shared with any third party, and consent of parents was received on the basis of voluntariness. The data collection was performed upon consent.

Ethics Statement: the ethics approval required for the present study was obtained from the Ethics Committee of the Faculty of Medical Sciences of Selçuk University. (Date and number 2021/210)

2.4. Data Analysis

The validity of the Global Parental Self-Efficacy Scale was tested using language, structural, and content validity methods. The reliability of the Global Parental Self-Efficacy Scale was tested using Cronbach Alpha internal consistency coefficients, split-half reliability, and test-retest reliability methods. The data obtained in the present study were analyzed using SPSS 26 and Amos 28 package software.

3. Findings

3.1. Language Validity of the Global Parental Self-Efficacy Scale (GPSES)

The original English version of the scale was translated into the Turkish language by three experts and the Turkish version was translated into English language by two experts in order to test the accuracy of the translation. To test the language equivalence, the English form and Turkish translation were conducted on 32 parents, who have children in the age group of 3-6 years, at a 4-week interval. The data obtained were analyzed in terms of Pearson's product-moment correlation method, and the relationship between English and Turkish versions was found to be r= 0.87. In other words, the consistency between two implementations was found to be high and language equivalence was ensured.

3.2. Content Validity of the Global Parental Self-Efficacy Scale (GPSES)

To test the content validity of the scale, both English and Turkish versions were provided to 8 child development and education experts. Some statements in the Turkish version were compared to the original statement, understandability of the statements was checked, and the experts were given a form to rate the statements as suitable, partially suitable, and not suitable. The experts provided their opinions on both the English original and Turkish translation by using this form. They specified their thoughts and suggestions in the explanation section. The items, on which 8 experts reached a consensus, were taken directly, whereas the items suggested to be revised were separated for revision. The scale obtained after the revision was considered to have validity. The intraclass correlation was found to be 0.96 ($p<0.01$). Moreover, Fleiss' Kappa Test was used for determining the agreement between the responses of experts and between more than two raters. Scores closer to 1 in this test indicate a high level of agreement. As stated by McHugh (2012), the scores were classified as "0.00-0.20: No agreement, 0.21-0.39: minimal agreement, 0.40-0.59: weak agreement, 0.60-0.79: moderate agreement, 0.80-0.90: strong agreement, and 0.90< : almost perfect agreement". Kappa test result was 0.82 $p<0.01$ and it was concluded that there was a strong agreement.

3.3.Structural Validity of the Global Parental Self-Efficacy Scale (GPSES)

The structural validity of the scale was tested using the Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA). The fit of data to factor analysis was determined by using Kaiser-Meyer Olkin (KMO) coefficient and Bartlett Sphericity test.

KMO coefficient was calculated to determine if a sufficient sample size for factor analysis was achieved. KMO coefficients closer to 1 suggest that a sufficient number of samples for analysis was achieved (Büyüköztürk, 2013). KMO coefficient of the Global Parental Self-Efficacy Scale was found to be 0.748, while Bartlett Sphericity ($X2=2285.553$; $p<0.01$) and Chi-Square test results suggested statistical significance.

Exploratory Factor Analysis was performed to determine the factors to be determined by using the Global Parental Self-Efficacy Scale. As with the original form, 5 factors were found to have scores higher than 1. The first factor explains 19.3% of the total variance, whereas the second factor explains 13.9%, the third explains 12.4%, the fourth explains 11.5%, and the fifth explains 12.9% of the total variance. Total variance explained is 70.2%.

Table 1. Item factor loads and variance values of the turkish form of global parental self-efficacy scale

	Play	Discipline	Nurturance	Teaching	Instrumental Care
Item 1		.698			
Item 2		.628			
Item 3		.383			
Item 4		.475			
Item 5		.386			
Item 6		.369			
Item 7		.520			
Item 8	.654				
Item 9	.701				
Item 10	.727				
Item 11	.685				
Item 12	.628				
Item 13			.698		
Item 14			.796		
Item 15			.868		
Item 16			.486		
Item 17			.637		
Item 18					.619
Item 19					.651
Item 20					.594
Item 21					.581
Item 22					.646
Item 23				.750	
Item 24				.635	
Item 25				.709	
Variance	19.316	13.958	12.401	11.597	12.929

Since all the items of the Global Parental Self-Efficacy Scale had scores higher than 0.30, no item was excluded and there is a 5-factor structure, the same as in the original form. Thus, dimensions were named by translating the names in the dimensions of the original form.

An analysis was performed for the first-level confirmatory factor analysis of the Global Parental Self-Efficacy Scale and, for the model fit, the SRMR value was found to be 0.0705, CMIN/DF value to ve 4.052, RMSEA value to be 0.073, GFI value to be 0.87, and CFI value to be 0.859. A modification procedure was performed since the modification values achieved were not at the desired level (Gürbüz, 2019). After the modification process, the fitness values were at the desired level and the analysis was completed.

The standardized path coefficients of the first-level confirmatory analysis of the Global Parent Self-Efficacy Scale are provided in Figure 1.

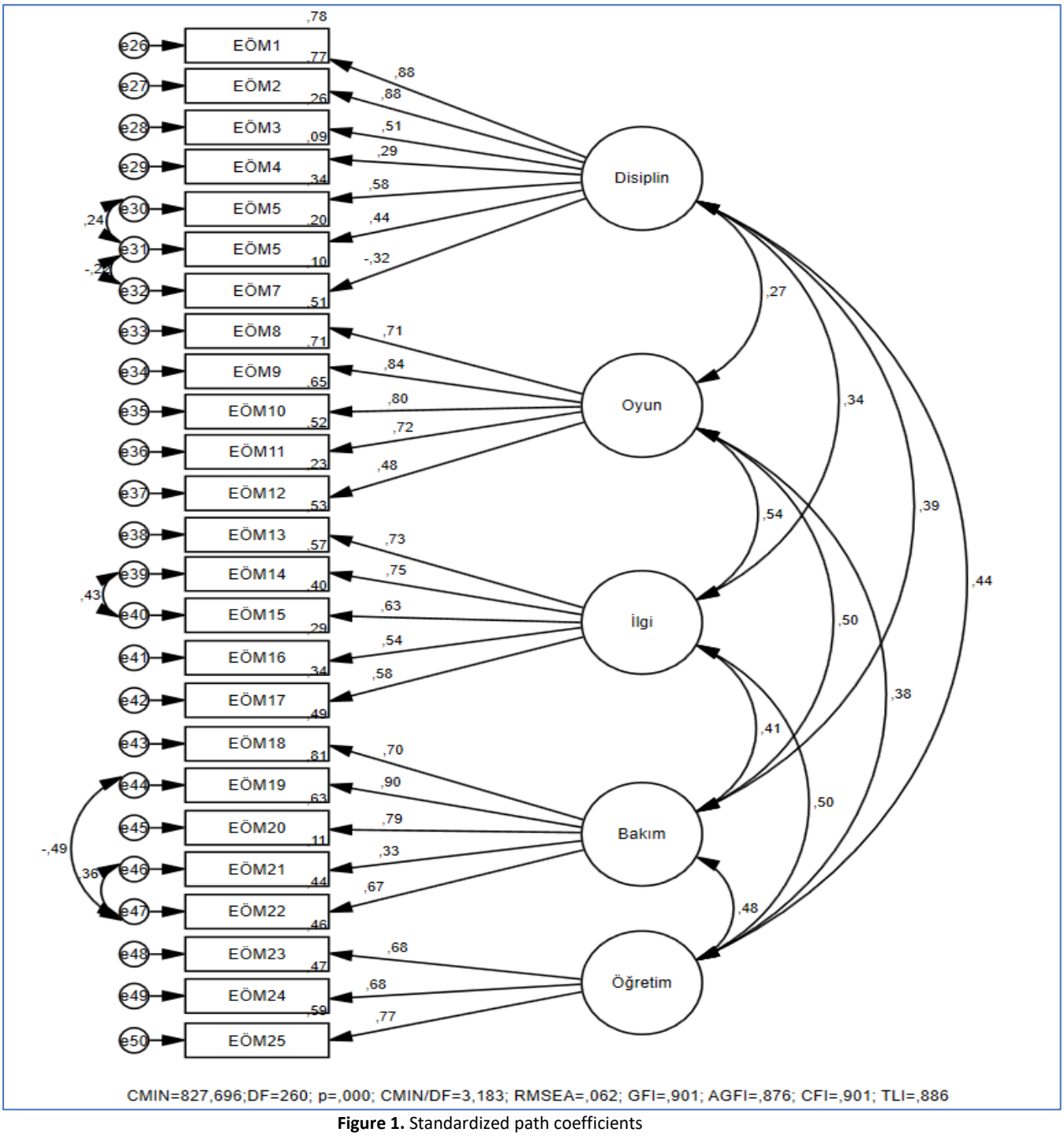

Figure 1. Standardized path coefficients

Table 2. First-level confirmatory factor analysis results

			β_0	β_1	SH	Test İst.	P
EÖM1	<---	Discipline	0.882	1.000			
EÖM2	<---	Discipline	0.876	0.944	0.040	23.793	**<0.001**
EÖM3	<---	Discipline	0.509	0.655	0.053	12.463	**<0.001**
EÖM4	<---	Discipline	0.292	0.292	0.043	6.770	**<0.001**
EÖM5	<---	Discipline	0.579	0.554	0.038	14.544	**<0.001**
EÖM6	<---	Discipline	0.442	0.482	0.046	10.561	**<0.001**
EÖM7	<---	Discipline	-0.315	-0.310	0.042	-7.325	**<0.001**
EÖM8	<---	Play	0.711	1.000			
EÖM9	<---	Play	0.840	1.263	0.070	18.111	**<0.001**
EÖM10	<---	Play	0.804	1.240	0.071	17.501	**<0.001**
EÖM11	<---	Play	0.724	1.201	0.076	15.910	**<0.001**
EÖM12	<---	Play	0.482	0.767	0.072	10.714	**<0.001**
EÖM13	<---	Nurturance	0.725	1.000			
EÖM14	<---	Nurturance	0.755	1.368	0.094	14.477	**<0.001**
EÖM15	<---	Nurturance	0.631	0.934	0.076	12.311	**<0.001**
EÖM16	<---	Nurturance	0.543	1.172	0.104	11.260	**<0.001**
EÖM17	<---	Nurturance	0.585	1.017	0.084	12.053	**<0.001**
EÖM18	<---	Instrumental Care	0.701	1.000			
EÖM19	<---	Instrumental Care	0.902	1.269	0.069	18.377	**<0.001**
EÖM20	<---	Instrumental Care	0.791	0.989	0.055	17.855	**<0.001**
EÖM21	<---	Instrumental Care	0.331	0.480	0.065	7.417	**<0.001**
EÖM22	<---	Instrumental Care	0.667	0.817	0.059	13.824	**<0.001**
EÖM23	<---	Teaching	0.678	1.000			
EÖM24	<---	Teaching	0.683	0.944	0.074	12.783	**<0.001**
EÖM25	<---	Teaching	0.766	1.076	0.080	13.414	**<0.001**

β_0: Standardized path coefficients, β_1: Non-standardized path coefficients, SE: Standard Error

Standardized and non-standardized path coefficients of the scale containing 5 sub-dimensions are presented in Table 2. All the path coefficients of 7 items in dimension “Discipline” were found to be significant. There are 5 items in the dimension “Play” and all the path coefficients in this dimension were found to be statistically significant. Standardized path coefficients of the items in the dimension “Play” were found to range between 0.482 and 0.840. there are 5 items in the dimension “Nurturance”. All the path coefficients in this dimension were statistically significant. Standardized path coefficients range between 0.543 and 0.755. There are 5 items in the dimension “Instrumental Care” and the standardized path coefficients ranging between 0.331 and 0.902 were found to be all statistically significant. There are only 3 items in the dimension “Teaching”. The path coefficients of these items range between 0.678 and 0.766 and are statistically significant.

Table 3. First-Level Confirmatory Factor Analysis Results of the Global Parental Self-Efficacy Scale

Fit Index	Perfect Fit Criterion	Acceptable Fit Criterion	Study Result
CMIN/DF	0-2	2-5	3.183
RMSEA	≤ 0.05	≤ 0.08	0.062
SRMR	≤ 0.05	≤ 0.08	0.063
CFI	≥ 0.95	≥ 0.90	0.901

For samples larger than 250, it is considered suitable to report the CMIN/DF, CFI, SRMR, and RMSEA values (Gürbüz, 2019). RMR=0.063, GFI=0.901, AGFI=0.876, NFI=0.912, NNFI=0.914, IFI=0.923, CFI=0.947, and RFI=0.922. Accordingly, it was determined that the values showed an acceptable fit. As stated by Meydan and Şeşen (2011), while using the CFA, the scales having multiple dimensions should be tested with the second-level multifactorial models. The difference of this model from the first-level multifactorial model is the addition of scale itself into the model. The standardized path coefficients of the Global Parental Self-Efficacy Scale are presented in Figure 2, while the standardized and non-standardized path coefficients of the scale consisting of 5 sub dimensions are shown in Table 4.

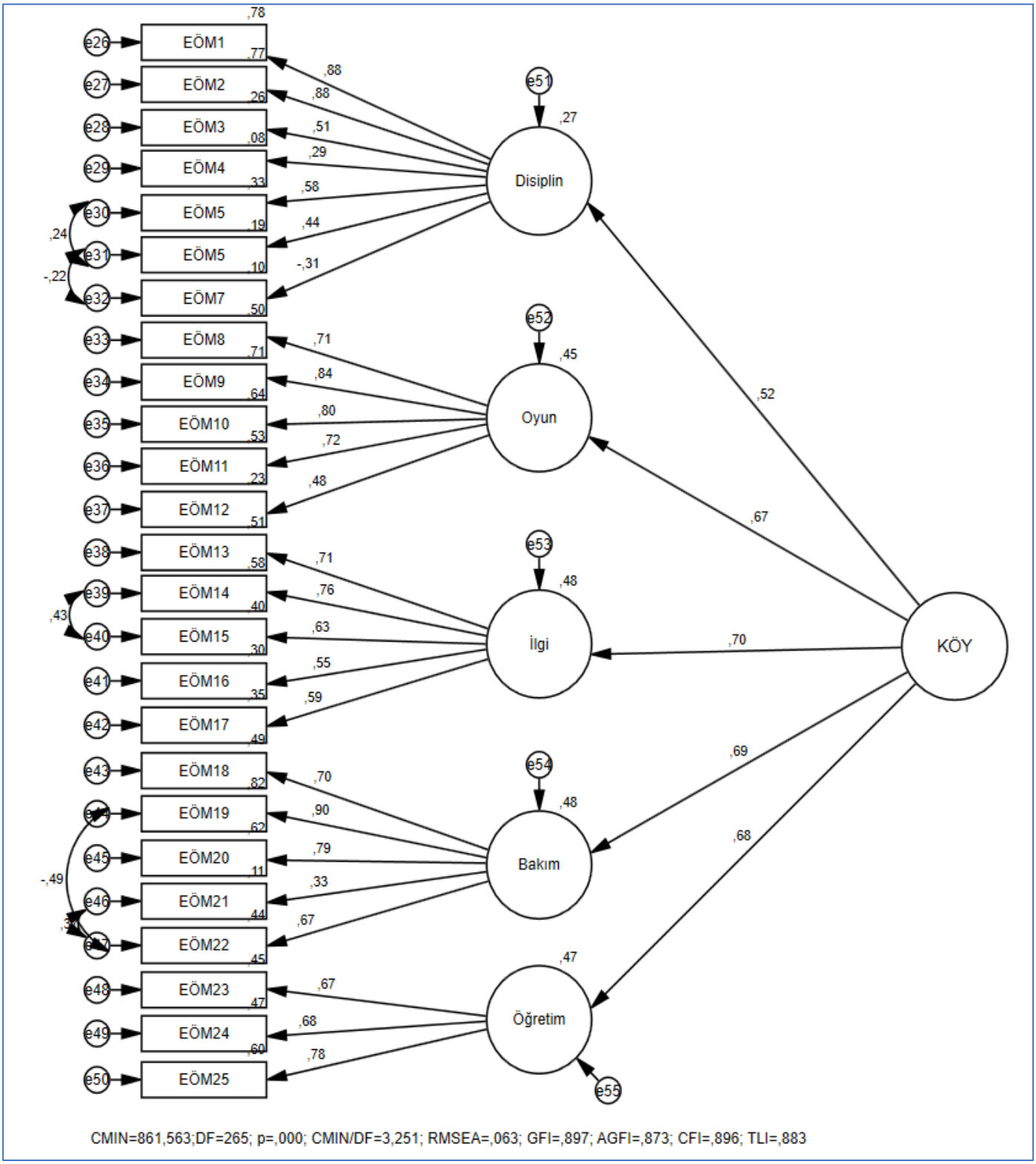

Figure 2. Standardized path coefficients of second-level confirmatory factor analysis

Table 4. Second-level confirmatory factor analysis results

			β_0	β_1	SH	Test İst.	P
Discipline	<---	KÖY	0.521	1			
Play	<---	KÖY	0.670	0.883	0.107	8.284	**<0.001**
Nurturance	<---	KÖY	0.696	0.615	0.075	8.209	**<0.001**
Instrumental Care	<---	KÖY	0.691	1.165	0.140	8.346	**<0.001**
Teaching	<---	KÖY	0.682	0.859	0.108	7.926	**<0.001**
EÖM1	<---	Discipline	0.883	1			
EÖM2	<---	Discipline	0.876	0.943	0.040	23.722	**<0.001**
EÖM3	<---	Discipline	0.509	0.653	0.052	12.446	**<0.001**
EÖM4	<---	Discipline	0.291	0.291	0.043	6.741	**<0.001**
EÖM5	<---	Discipline	0.577	0.551	0.038	14.466	**<0.001**
EÖM6	<---	Discipline	0.440	0.479	0.046	10.510	**<0.001**
EÖM7	<---	Discipline	-0.314	-0.309	0.042	-7.292	**<0.001**
EÖM8	<---	Play	0.710	1			
EÖM9	<---	Play	0.841	1.268	0.070	18.045	**<0.001**
EÖM10	<---	Play	0.801	1.239	0.071	17.382	**<0.001**
EÖM11	<---	Play	0.725	1.206	0.076	15.879	**<0.001**
EÖM12	<---	Play	0.485	0.774	0.072	10.763	**<0.001**
EÖM13	<---	Nurturance	0.715	1			
EÖM14	<---	Nurturance	0.762	1.401	0.098	14.280	**<0.001**
EÖM15	<---	Nurturance	0.631	0.947	0.078	12.097	**<0.001**
EÖM16	<---	Nurturance	0.546	1.197	0.107	11.209	**<0.001**
EÖM17	<---	Nurturance	0.588	1.037	0.087	11.976	**<0.001**
EÖM18	<---	Instrumental Care	0.701	1			
EÖM19	<---	Instrumental Care	0.903	1.269	0.069	18.347	**<0.001**
EÖM20	<---	Instrumental Care	0.790	0.986	0.055	17.857	**<0.001**
EÖM21	<---	Instrumental Care	0.328	0.474	0.065	7.346	**<0.001**
EÖM22	<---	Instrumental Care	0.666	0.816	0.059	13.792	**<0.001**
EÖM23	<---	Teaching	0.668	1			
EÖM24	<---	Teaching	0.683	0.959	0.076	12.650	**<0.001**
EÖM25	<---	Teaching	0.777	1.108	0.084	13.253	**<0.001**

All the path coefficients of 7 items in the dimension “Discipline” were found to be statistically significant and range between 0.291 and 0.883. There are 5 items in the dimension “Play” and all the standardized path coefficients were found to be statistically significant. Those coefficients range between 0.485 and 0.841. There are 5 items in the dimension “Nurturance”. All path coefficients of all the items in this dimension were found to be statistically significant and standardized path coefficients range between 0.546 and 0.762. There are 5 items in the dimension “Instrumental Care” and all the standardized path coefficients ranging between 0.328 and 0.903 were found to be statistically significant. There are 3 items in the dimensions “Teaching”. The Path coefficients in this dimension range between 0.668 and 0.777 and are statistically significant.

Table 5. Second-level confirmatory factor analysis results of the global parental self-efficacy scale

Fit Index	Perfect Fit Criterion	Acceptable Fit Criterion	Study Finding
CMIN/DF	0-2	2-5	3.251
RMSEA	≤ 0.05	≤ 0.08	0.063
SRMR	≤ 0.05	≤ 0.08	0.068
GFI	≥ 0.90	≥ 0.85	0.897
CFI	≥ 0.95	≥ 0.90	0.896

Among the fitness values obtained, only GFI and CFI values were found to be at the limits.

3.3.4.Reliability of the Global Parental Self-Efficacy Scale for Parents with 3–6-Year-Old Children

3.3.4.1. Cronbach's Alpha Reliability Analysis

Reliability levels of the Global Parental Self-Efficacy Scale were determined using Cronbach's Alpha reliability analysis.

Table 6. General descriptive statistics and Cronbach's Alpha values of the Global Parental Self-Efficacy Scale

	Number of Items	Mean	Std. Dev.	Median	Min.	Max	Cronbach Alpha
Global Parental Self-Efficacy Scale	25	3.72	0.52	3.78	2.11	4.89	**0.867**
Discipline	7	3.23	0.61	3.29	1.71	4.86	**0.637**
Play	5	3.86	0.82	4.00	1.00	5.00	**0.831**
Nurturance	5	4.24	0.59	4.20	1,40	5.00	**0.777**
Instrumental Care	5	3.43	0.83	3.60	1.40	5.00	**0.812**
Teaching	3	3.86	0.77	4.00	1.00	5.00	**0.747**

Given the Cronbach's alpha reliability coefficients of the scale, the dimension "Discipline" was at generally accepted reliability level, whereas the dimensions "Nurturance" and "Teaching" were at good reliability level and the dimensions "Play" and "Instrumental Care" and the Global Parental Self-Efficacy Scale were at very good reliability level (Karagöz, 2016, s. 940).

3.3.4.2.Test-Retest Reliability of the Global Parental Self-Efficacy Scale (GPSES)

Test was conducted with 30 and then it was conducted again after 4 weeks and the correlation between them was found to be 0.82. For a test to be considered reliable, the results obtained from the first test must overlap with the ones obtained from the second test. Test-retest reliability should be between 0 and 1. The values closer to 1 show that the test results have low sensitivity to environmental and individual changes (original "test results and environmental and individual changes outside the test show a low level of sensitivity") (Büyüköztürk, 2013).

Table 7. Test-Retest Reliability

Subdimensions		X	SD	r	P
Discipline	Test	11.89	3.49	0.724	<0.001
	Retest	12.70	3.78		
Play	Test	12.72	3.85	0.981	<0.001
	Retest	13.92	5.21		
Nurturance	Test	13.90	3.71	0.816	<0.001
	Retest	14.50	3.37		
Instrumental Care	Test	11.66	3.64	0.765	<0.001
	Retest	11.58	3.99		
Care	Test	11.78	3.80	0.833	<0.001
	Retest	12.92	3.42		
Total	**Test**	**61.95**	**18.49**	**0.824**	**<0.001**
	Retest	**65.62**	**19.77**		

3.3.4.3.Split—Half Reliability of the Global Parental Self-Efficacy Scale (GPSES)

To calculate the split-half reliability of the Global Parental Self-Efficacy Scale, the items in each dimension were divided into halves. The analysis was performed using the "Spearman-Brown" formula and the correlation coefficients between subdimensions were calculated. The reliability coefficients calculated using the Spearman-Brown formula (Table 8).

Table 8. Split-Half Reliability Coefficients of the Global Parental Self-Efficacy Scale

Scale	Dimensions	Spearman-Brown Coefficients	Scale in Total
Global Parental Self-Efficacy Scale (GPSES)	Discipline	0.714	0.740
	Play	0.852	
	Nurturance	0.743	
	Instrumental Care	0.756	
	Teaching	0.701	

Spearman-Brown coefficients were found to meet the split-half test reliability. For the split-half test reliability, the value should be equal to or higher than 0.70 (Büyüköztürk, 2013).

4. Results and Discussion

In the present study, it was aimed to perform the validity and reliability analyses of the Global Parental Self-Efficacy Scale for the parents having children aged between 3 and 6 years. Expert opinions were obtained for the content validity and all the experts stated that the test was suitable for the objective of the measurement. The structural validity of the test was tested using exploratory factor analysis and confirmatory factor analysis. The results obtained from the exploratory factor analysis, a 5-factor structure was achieved as in the original scale. Since all the items of the Global Parental Self-Efficacy Scale had values higher than 0.30, no item was excluded (Büyüköztürk, 2013). Moreover, since the Turkish form had the same factor structure as the original one, the names of dimensions were translated directly from the original.

A modification was performed since the agreement results obtained from the confirmatory factor analysis were not within the desired limits (Gürbüz, 2019). It was determined that the model agreement values obtained after the modification were acceptable and the analysis was completed. As a result of the confirmatory factor analysis performed, the ratio of Chi-Square to Degree of Freedom (X2 /Sd) was found to be 3.1, Root Mean Square Error of Approximation (RMSEA) to be 0.062, Goodness Fit Index (GFI) to be 0.901, Adjusted Goodness Fit Index (AGFI) to be 0.87, Comparative Fit Index (CFI) to be 0.94, and Non-Normalized Fit Index (NNFI) to be 0.91.

Moreover, since the scale has multiple dimensions, the second-level confirmatory factor analysis was performed and the ratio of Chi-Square to Degree of Freedom (X2 /Sd) was found to be 3.2, Root Mean Square Error of Approximation (RMSEA) to be 0.063, Goodness Fit Index (GFI) to be 0.897, Adjusted Goodness Fit Index (AGFI) to be 0.87, and Comparative Fit Index (CFI) to be 0.896. Among the fit values obtained, only the GFI and CFI values were found to be at the limits and other values showed an acceptable goodness fit.

The reliability of the Global Parental Self-Efficacy Scale was tested using the Cronbach's alpha coefficients. The coefficients were found to be 0.63 for Discipline, 0.83 for Play, 0.77 for Nurturance, 0.81 for Instrumental Care, and 0.74 for Teaching. The alpha coefficient calculated for the scale in total was 0.86. There is a general thought that Cronbach's alpha coefficients should be equal to or higher than 0.70. Besides that, it was also reported that the alpha coefficients were influenced by the number of items and the multidimensionality (Schmitt, 1996). It was emphasized that alpha values of 0.50 and higher were also important for multidimensional scales (Çalışkan et al., 2013). While the dimension "Discipline" had an acceptable reliability level, all other dimensions had high reliability levels.

The reliability of the Global Parental Self-Efficacy Scale was tested also by using the test-retest method. The correlation between the results obtained after conducting the test with 4 weeks interval was found to be 0.82. As a result of the analyses conducted within the scope of the test's split-half reliability, the correlation coefficient for the total scale was found to be 0.74. The correlation coefficients between 0.70 and 1.00 are accepted to indicate a high level of relationship (Büyüköztürk, 2013). Accordingly, it can be stated that the Global Parental Self-Efficacy Scale had high split-half and test-retest reliability levels.

In conclusion, the Global Parental Self-Efficacy Scale has 7 items in the dimension "Discipline", 5 items in the dimension "Play", 5 items in the dimension "Nurturance", 5 items in the dimension "Instrumental Care", 3 items in the dimension "Teaching" (25 items in total), and 5 dimensions. In this scale designed as a 5-point Likert-type one, the higher scores indicate a higher level of self-efficacy, whereas lower scores indicate a lower level of self-efficacy.

The final conclusion achieved as a result of the present study is that the Global Parental Self-Efficacy Scale is a reliable and valid measurement tool to measure the self-efficacy of parents having children aged between 3 and 6 years. Differing from the other parental self-efficacy scale used in Turkey, the present study is important since this scale can be conducted on both mothers and fathers having preschool-age children and it can be conducted in a short time. However, it is limited to the results obtained from the parents living in the central districts of Bursa province. It is thought to shed light on future studies by adding a new one to the scales aiming to measure parental self-efficacy. It can be used in studies aiming to understand the predictors of parental self-efficacy and assess the parenting education programs being developed.

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Conflict of Interest

It has been reported by the authors that there is no conflict of interest.

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