

Early Childhood Life Skills Scale: Scale Development Reliability and Validity Study

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ABSTRACT

The aim of this study is to develop a valid and reliable measurement tool to assess the life skills of 48-72-month-old children. For the draft scale consisting of 56 items, a pilot application was carried out with a study group of 152 children. The validity and reliability studies after the pilot application were carried out with 350 children in the 48-72 month-old group determined with simple random sampling method. According to the results of the KMO and Bartlett test of the scale, the KMO value was found to be .96. After the KMO values were determined, analyses were performed to examine the distribution of the eigenvalues of the scale items and the number of dimensions formed in the scale, and it was determined that the scale consisted of one dimension. Exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) were applied to determine the construct validity. As a result of the exploratory factor analysis, it was seen that one dimension explained 47.24% of the total variance of the scale. When the fit statistics calculated by CFA were examined, it was seen that the previously determined single-factor structure of the scale was generally compatible with the collected data, while the Cronbach's alpha coefficient of internal consistency reliability was found to be 0.98. The results obtained from the study show that the early childhood life skills scale is a valid and safe measurement tool.

KEYWORDS

Early childhood; preschool life skills; life skills scale; scale development.

INTRODUCTION

Recent technological innovations and their far-reaching ramifications mean that it is no longer important for individuals to develop in specific areas or to have certain skills. Instead of seeking to be an “intelligent person”, our societies now place greater value on the concept of a “versatile person”. Preparing for life as individuals who are aware of what they have, at peace with their environment and with themselves, and able to embrace life and contribute to the society they live in has gained value (Özmete; 2008; Yavuz, 2004). At this point, the concept of “Life Skills” which is defined as a set of desirable 21st century abilities emerged (Buchert, 2014). Life skills, which provide for the acquirement of developmental skills necessary for life and which can affect comprehensive behavior change, are defined as “positive behavior, ability and skills which help an individual to deal effectively with challenges and various situations s/he may encounter in life” (World Health Organization, 1999:8). These skills help children to achieve their goals in transition to adulthood and to cope with the difficulties and problems they face. Supporting the development of life skills in children allows for raising individuals who can manage the challenges of daily life well and who have a high level of life satisfaction (Norman & Jordan, 2015).

The World Health Organization (WHO) has stated that life skills comprise 10 basic skills for individuals of every age group which are grouped into five main areas. These areas are: “coping with emotions and stress, decision making, problem solving, creative and critical thinking, communication, interpersonal skills, self-awareness and empathy” (Hodge et al., 2012; WHO, 1999:). Life skills, which are discussed in the literature within the scope of preventive and protective studies, are expressed as “competences individuals need to have in order to continue their existence effectively in the process of development and change” (Anand et al., 2015; Demircioğlu, 2015; Kolburan & Tosun, 2011). Possessing life skills eases the life of individuals by enabling them to transfer the gains from schools into daily life (Bahçeci & Kuru, 2008). This way children grow up as individuals that have the capacity to face with the problems or opportunities they encounter in their daily lives (Parvathy & Pillai, 2015). In recognising the importance of life skills education, we need to establish at which stages of child development life skills need to be supported. Ideally, life skills education should start early to help minimise possible negative behavior and interaction patterns (Murthy, 2016). Supporting life skills in preschool years helps children to overcome social - emotional difficulties. The level of life skills acquired in the early childhood period forms the basis of how well children will perform in later ages and their future education life. Life skills education given to children in this period also helps them to be successful in school and their development of social responsibilities (Gatami & Kathuri, 2018). Clearly, it is useful to know childrens’ level of life skills, understand what skills need to be supported, and to be able to identify possible problems early and make necessary interventions. It is also necessary for educators to know the life skills levels of children when designing the process of life skills education and deciding on the achievements to prioritise. A suitable and reliable measurement tool is needed in order to determine whether the designed

life skills program has reached its goals as well as the current life skills levels of children (Luckey & Nadelson, 2011).

It is important to know children's life skills levels for understanding the skills that are to be developed and performing necessary intervention by detecting possible problems earlier. It is also necessary for educators to know about children's life skills levels when designing the life skills education process and deciding on the gains that will be prioritized. Therefore, there is a need for a suitable and reliable measurement tool to determine whether the life skills programs developed reach their goals or not (Luckey & Nadelson, 2011). When the literature on evaluating life skills in Turkey was reviewed, it was seen that life skills scales have been developed for university students (Bolat & Balaban, 2017; Özmete, 2008; Şimşek, 2019) and high school students (Kutsal & Nazlı, 2021). In the context of evaluating preschool children's life skills, on the other hand, only the "Preschool Life Skills Scale" developed by Yıldırım (2017) was found. This measurement tool includes questions to measure children's skills of responsibility, social life, self-awareness, gender awareness, decision-making, survival and self-care. The present study aimed to develop a new measurement tool that will cover other life skills than those included by available measurement tools and contribute to the field in evaluating life skills during early childhood. The Early Childhood Life Skills Scale developed to this end is considered to make significant contribution to the field.

METHOD

Participants

In order to carry out the validity and reliability studies of the Early Childhood Life Skills Scale (ECLSS) developed within the scope of the study, lists of central preschools and primary schools having preschools within their bodies were obtained upon getting permission from Düzce Provincial Directorate of National Education.

Two study groups were formed within the scope of the study. For the pilot, 152 children were selected with the random sampling method from two independent preschools and one preschool at a primary school affiliated to Düzce Provincial Directorate of National Education. Researchers suggest different approaches in determining the size of the group that will perform factor analysis in pre-application such as twice the number of items (Büyüköztürk et al., 2008), and four times the number of items (MacCallum et al., 2001). In selecting the first study group for the pilot implementation, more than twice the sample number was reached based on the opinions of Büyüköztürk et al. (2001). The second study group was formed to test the validity and reliability of the ECLSS. 197 children attending preschools at 3 different primary schools and 253 children attending 5 different independent preschools (n=350) formed the study group for the validity and reliability examinations.

It is important that the sample group represent the population. Thus, the sample group and number must be appropriate for the purpose of the study. Nunually (1978) stated that a sample group of 300 persons would be sufficient for scale development studies. On the other

hand, Comrey and Lee (1992) accepted a sample group of 100 persons as weak, 200 persons moderate, 300 persons good, 500 persons very good and 1000 persons as perfect (Cited from Şahin et al,2018;192) while Kline (1994) states that 200 is sufficient for a reliable factor sample size. In the light of this information, it was concluded that a group of 350 children would make a sufficient sample size for the second working group.

Table 1. Demography features of the study group for validity and reliability practices

Demographic Features	n	%	
School Type	Preschool of a Primary School	125	35.71
	Independent Preschool	225	64.29
	Total	350	100.00
Child's Gender	Girl	171	48.86
	Boy	179	51.14
	Total	350	100.00
Child's Age	48-60	180	51.42
	60-72	170	48.58
	Total	350	100.00
Mother's Age	25 and under	6	1.72
	26-40	319	91.14
	41-60	25	7.14
	Total	350	100.00
Mother's Educational Status	Primary School	43	12.29
	Secondary School	47	13.43
	High School	140	40.00
	University	119	34.00
	Postgraduate	1	0.28
	Total	350	100.00
Father's Age	25 and under	1	0.28
	26-40	304	86.86
	41-60	45	12.86
	Total	350	100.00
Father's Educational Status	Primary School	33	9.43
	Secondary School	30	8.57
	High School	158	45.14
	University	117	33.43
	Postgraduate	12	3.43
	Total	350	100.00

When Table 1 is analyzed, it is seen that 35,71% of the children in the study group which was formed for testing the validity and reliability of ECLSS attended a preschool attached to a primary school and 64,29% of the children attended an independent preschool. In terms of gender, 48,86% of the children were female, 51,14% were male. When the distribution according to age groups is examined, it is seen that 51,4% of the children are 48-60 months old, 48,6% are 60-72 months old. While mothers of 92,21% of the children were in the 26-40 year-

old group, the mothers of 7,79% of children aged 41-60. Only 1,72% of mothers were in the '25 years and under' age group. Similarly, 86,8% of the fathers were in the 26-40 year-old group, and 12,9% of them aged 41-60, only 0,28% of the fathers were in the 25 years and under age group. When the educational status of the mothers is examined, it is seen that 40% graduated from high school, 34% are university graduates, 13,43% completed secondary school, 12,29% finished primary school and only 0,28% of them possess postgraduate qualifications. Of the fathers, 45,14% are high school graduates, 33,43% university graduates, 9,43% had only completed primary school, 8,57% completed secondary school, and 3,43% of them have postgraduate degrees

Development of the Draft Scale

In the first stage of ECLSS development, literature review was conducted that included an analysis of the current preschool education program (MEB, 2013), studies carried out on life skills and nationally and internationally published articles, theses, books and studies on education programs. The review was then used to determine the scope and contents of the scale by assembling knowledge of how to measure skills inclusive of life skills and evaluate them in 48-72 month-old children. This entailed examining the standards and competences related to life skills. An item pool was formed, considering the need to ensure the content validity of the emerging scale.

The scale includes items for communication, interpersonal relationship, critical thinking, creative thinking, problem solving, decision making, managing feelings, coping with stress, self awareness, empathy, health and safety skills. The content validity of 68-item draft scale was later examined by independent experts in the field of early childhood education and their feedback was taken into consideration.

Data Analysis

Once the first draft of the Early Childhood Life Skills Scale (ECLSS) was produced, the Lawshe technique was used to determine content validity. KMO and Bartlett test was conducted to understand whether it was possible to apply it before the exploratory factor analysis. Factor loadings of the items were then analyzed and item was found to have a factor loading below .30. Thus, no item was excluded from the scale being seen as necessary. The Principle Component Analysis method was then used to evaluate specifications such as the situation of factors explaining the total variance, common variance and factor loading. After determining which items are related to which factors with exploratory factor analysis, confirmatory factor analysis was conducted. Regression values and t values of CFA were analyzed. It was determined that regression coefficients and t values were significant and the model was validated. Finally, reliability analysis was performed by calculating the Cronbach Alpha coefficient and item-total correlation coefficient.

RESULTS

Determination of Content Validity

Expert opinion was received to determine the content validity index of the prepared ECLSS. Content validity rates are expressed as one less than the ratio of the total number of experts who responded positively (essential) for each item to the total number of experts and it is thought that a field expert group to be consulted should consist of minimum 5 and maximum 40 experts (Yurdugül, 2005). Within the scope of this study, opinions of 10 experts were received and content validity rates were determined accordingly. In the technique developed by Lawshe, the lowest possible value for the items is accepted as 0.62 for content validity, which is calculated by consulting 10 expert opinions (Yurdugül, 2005). For this reason, 8 items which had a value of 0.6 were removed from the scale after receiving the expert opinions. As a result, the draft ECLSS was revised to consist of 56 items. Following the content validity, in order to carry out preliminary application of the scaling tool, a pilot study was conducted with 152 children attending two independent and one state-run preschools determined using the random sampling method after obtaining the necessary permissions. When the results of the pilot study were examined, no problem was encountered regarding intelligibility, hence no change was made to the items of the scaling tool.

Establishing Construct Validity

In order to determine the construct validity of ECLSS, exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) were conducted. For reliability, on the other hand, Cronbach's alpha reliability coefficients were calculated. KMO and Bartlett tests were conducted to check the applicability of the Exploratory Factor Analysis for item statistics. It is required for KMO test results to be 0.50 or above and the result of a Bartlett's Test of Sphericity needs to be statistically significant (Jeong, 2004; Kalaycı, 2009). The KMO test result was 0,96 and Bartlett's Test of Sphericity was found statistically ($p < 0.01$) significant. The results obtained show that there are high correlations between the values and the variables. According to these results, it can be said that it is possible to apply exploratory factor analysis with the acquired data.

Table 2. Results of ECLSS's kmo and bartlett test

<i>KMO and Bartlett Test</i>			
Kaiser-Meyer-Olkin	Measure	of	.961
Sampling Adequacy			
		Approximate Chi-square	20672.727
Bartlett's Test of Sphericity			
		Sd.	1540
		Significance	.000*

According to Table 2, KMO value is .96 with regard to the result of ECLSS's KMO and Bartlett test. After determining the KMO values, analyses were conducted for examining the distribution of eigenvalues of scale items and the number of dimensions formed on the scale. When the scree plot of the eigenvalues of the factors is examined, it is understood that the single factor with a higher eigenvalue than others explaining a higher variance is dominant. Thus, it is observed that the scale consists of one dimension.

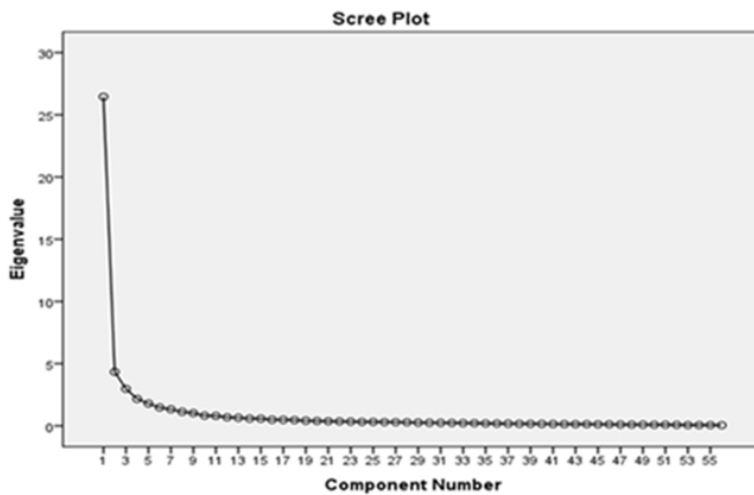


Figure 1. Scree plot of the eigenvalues of the factors

After determining the factor number of the scale, factor analysis was repeated. No rotation was performed as the scale formed on a single factor. The factor loadings of the ECLSS are shown in Table 3.

The factor loadings of the scale are shown in Table 3. It is stated that the item factor loadings need to be higher than 0.30. Items with a factor loading below 0.30 and those that give high loading values to more than one factor (overlapping item) need to be removed from the scale (Büyüköztürk, 2002). As the eigenvalue increases, the variance the factor explains also increases (Çokluk et al., 2014). The factor loadings of the ECLSS were analyzed and none of the items were found to have a factor loading below .30. Thus, no item was excluded from the scale. To determine the number of dimensions of the ECLSS, under the dimensions where the items are collected and the evaluability of items, the Principle Component Analysis method was used in order to be able to evaluate specifications such as the ability to explain total variance, common variance and factor loading.

Table 3. The value of factor load after factor analysis of ECLSS

Item	The Value of Factor Load Factor-1	Item	The Value of Factor Load Factor-1
M12	.819	M47	.669
M7	.811	M9	.662
M13	.808	M53	.655
M3	.805	M22	.647
M4	.800	M16	.645
M39	.794	M34	.617
M27	.781	M45	.614
M26	.777	M24	.605
M8	.772	M43	.585
M2	.765	M44	.570
M32	.759	M46	.570
M6	.757	M40	.564
M36	.752	M17	.558
M1	.751	M23	.536
M37	.750	M14	.516
M5	.748	M41	.514
M25	.740	M15	.473
M33	.731	M42	.453
M35	.729	M56	.431
M28	.727	M47	.669
M19	.721	M9	.662
M29	.719	M53	.655
M38	.717	M22	.647
M30	.714	M16	.645
M18	.712	M34	.617
M48	.705	M45	.614
M49	.705	M24	.605
M20	.700	M43	.585
M21	.696	M44	.570
M54	.692	M46	.570
M10	.689	M40	.564
M50	.689	M17	.558
M51	.687	M23	.536
M31	.686	M14	.516
M11	.684	M41	.514
M52	.680	M15	.473
M55	.670	M42	.453

Table 4. The Table of explanation of variance according to dimensions of ECLSS

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	Variance Percentage	Cumulative Percent	Total	Variance Percentage	Cumulative Percent	Total	Variance Percentage	Cumulative Percent
1	26.453	47.237	47.237	26.453	47.237	47.237	9.075	16.204	16.204
2	4.340	7.751	54.988	4.340	7.751	54.988	7.095	12.670	28.874
3	2.981	5.323	60.311	2.981	5.323	60.311	6.195	11.063	39.937
4	2.174	3.883	64.193	2.174	3.883	64.193	4.743	8.469	48.406
5	1.801	3.216	67.409	1.801	3.216	67.409	4.458	7.961	56.367
6	1.480	2.642	70.051	1.480	2.642	70.051	3.610	6.446	62.812
7	1.336	2.386	72.437	1.336	2.386	72.437	2.835	5.063	67.875
8	1.138	2.033	74.470	1.138	2.033	74.470	2.624	4.686	72.561
9	1.029	1.838	76.308	1.029	1.838	76.308	2.098	3.747	76.308
10	.824	1.471	77.778						
11	.804	1.435	79.214						
12	.694	1.239	80.453						
13	.655	1.170	81.623						
14	.593	1.059	82.681						
15	.580	1.036	83.717						
16	.502	.896	84.614						
17	.490	.876	85.489						
18	.467	.835	86.324						
19	.419	.749	87.073						
20	.392	.700	87.773						
21	.376	.671	88.444						
22	.363	.648	89.092						
23	.345	.616	89.708						
24	.325	.581	90.289						
25	.323	.577	90.866						
26	.306	.546	91.412						
27	.299	.534	91.946						
28	.289	.516	92.462						
29	.268	.478	92.940						
30	.257	.458	93.398						
31	.246	.440	93.838						
32	.239	.427	94.265						
33	.226	.404	94.669						
34	.220	.393	95.062						

35	.201	.360	95.422
36	.190	.339	95.761
37	.185	.330	96.092
38	.172	.308	96.400
39	.170	.303	96.703
40	.164	.293	96.996
41	.154	.275	97.271
42	.145	.259	97.529
43	.141	.251	97.780
44	.136	.243	98.023
45	.131	.235	98.258
46	.128	.228	98.486
47	.111	.198	98.684
48	.107	.191	98.876
49	.101	.180	99.056
50	.097	.173	99.229
51	.095	.171	99.399
52	.085	.152	99.551
53	.068	.122	99.673
54	.065	.117	99.790
55	.063	.113	99.903
56	.054	.097	100.000

When Table 4 is examined, it is seen that one dimension explains 47.24% of the total variance of the scale as a result of the exploratory factor analysis. For a scale to have a high validity, variance explained in scales consisting of a single factor is expected to be 30% or higher (Büyükoztürk, 2002). According to these results, it can be thought that the scale has a single factor structure and it has a high level of validity. After determining which items are related to which factors with exploratory factor analysis, confirmatory factor analysis is used in order to determine the representation of items with determined factors to the required extent. "Confirmatory factor analysis (CFA) aims to evaluate to what extent a factorial model consisting of factors formed with many observable variables (latent variables) fits real data" (Sümer, 2000:50). In order to evaluate the validity of a model in CFA, a great number of fit indices are used. "The most frequently used ones among these (Cole, 1987; Sümer, 2000) are Chi-Square Goodness χ^2 , Root Mean Square Error of Approximation, RMSEA, Comparative Fit Index, CFI, Non-Normed Fit Index, NNFI, Normed Fit Index, NFI and Goodness of Fit Index, GFI. If the values observed in the scale model are in the range of $\chi^2/d < 3$; $0 < RMSEA < 0.05$; $0.97 \leq NNFI \leq 1$; $0.97 \leq CFI \leq 1$; $0.95 \leq GFI \leq 1$ and $0.95 \leq NFI \leq 1$, it shows perfect fit. If it is $4 < \chi^2/d < 5$;

0,05<RMSEA<0.08; 0.95≤NNFI≤0.97; 0.95≤CFI≤0.97; 0.90≤GFI≤0.95 and 0.90≤NFI≤0.95, it shows acceptable fit” (Kline, 2005; Sümer, 2000:50).

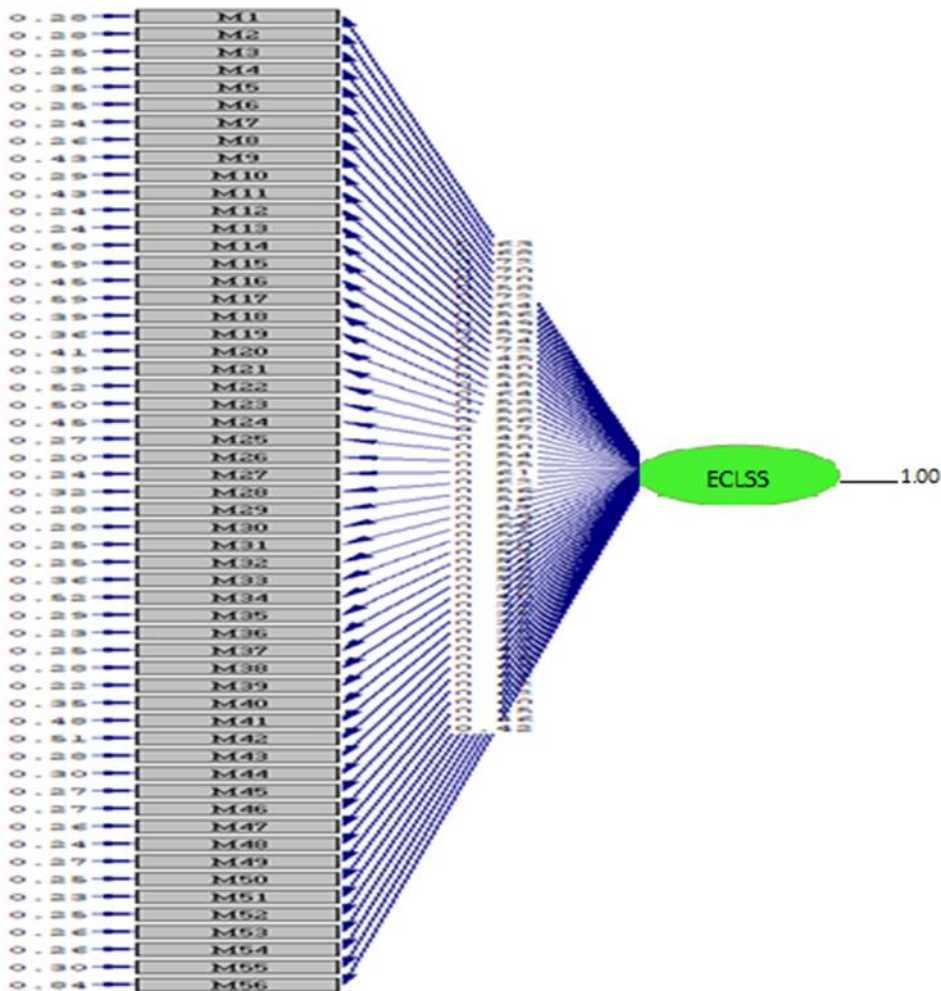


Figure 2. Path Diagram of the Scale

When Figure 2 is examined, it is seen that the final form of the scale consists of 56 items and a single factor. Fit indices were found as $\chi^2=7256.14$, $\chi^2/sd=4.89(4<\chi^2/d<5)$, $CFI=0.94(0.95\leq CFI\leq 0.97)$, $NNFI=0.92(0.95\leq NNFI\leq 0.97)$, $NFI=0.91(0.90\leq NFI\leq 0.95)$, $RMSEA=0,06(0,05<RMSEA<0.08)$ and $GFI=0,90(0.90\leq GFI\leq 0.95)$. RMSEA, GFI, χ^2/sd , and NFI values are in the acceptable threshold, CFI and NNFI values were found to be in the acceptable threshold as they are very close to the acceptable threshold. As 4 fit indices of the 6 are acceptable and 2 of them are close to the acceptable threshold, it can be theoretically said that validity is achieved. Fit indices were found to be at a sufficient level examining the coefficients showing the relationship between the factors and the observed variables of the model showing the factorial structure of the scale. When the fit indices calculated with CFA were taken into consideration, it was found that the previously determined single factorial structure of the scale fit the collected data. Regression values and t values of the items are given in Table 5

Table 5. Regression and t values of CFA

Items	Regression Values	t values	Items	Regression Values	t values
M1	0.63	16.96	M29	0.56	15.77
M2	0.68	17.57	M30	0.56	15.72
M3	0.72	18.77	M31	0.47	14.41
M4	0.70	18.50	M32	0.59	16.69
M5	0.70	16.88	M33	0.66	16.07
M6	0.58	16.61	M34	0.57	12.77
M7	0.72	18.97	M35	0.60	16.15
M8	0.64	17.41	M36	0.57	16.78
M9	0.56	13.62	M37	0.58	16.54
M10	0.49	14.24	M38	0.55	15.54
M11	0.59	14.13	M39	0.58	17.42
M12	0.74	19.22	M40	0.38	10.98
M13	0.72	18.85	M41	0.40	9.88
M14	0.45	10.17	M42	0.34	8.42
M15	0.40	9.10	M43	0.35	11.17
M16	0.45	13.12	M44	0.35	10.68
M17	0.59	10.55	M45	0.36	11.64
M18	0.39	15.46	M46	0.33	10.69
M19	0.36	14.76	M47	0.43	13.32
M20	0.41	14.16	M48	0.46	14.52
M21	0.39	14.10	M49	0.48	14.34
M22	0.52	12.76	M50	0.44	13.66
M23	0.50	10.80	M51	0.42	13.72
M24	0.50	12.25	M52	0.42	13.49
M25	0.54	15.59	M53	0.40	12.80
M26	0.55	17.13	M54	0.45	13.82
M27	0.61	17.30	M55	0.46	13.29
M28	0.62	16.16	M56	0.42	8.06

**p<0.01

When Table 5 is examined, it is seen that the obtained regression coefficients and t values are significant and the model is valid.

Calculation of reliability coefficient for Cronbach alpha internal consistency

Reliability analysis was conducted to determine the degree of consistency of the responses. Reliability analysis was performed by calculating the Cronbach Alpha coefficient and item-total correlation coefficient. "For a Cronbach Alpha (α) coefficient to be accepted, the value needs to be 0.70 or above" (Evcil & Aylar, 2017:58). The reliability coefficient was determined as 0.98 for the scale. Tezbaşaran (1997) states that a reliability coefficient, which can be considered sufficient, needs to be as close to 1 as possible in a Likert-type scale. In line with this value, it can be acknowledged that the whole scale has a high level reliability.

Table 6. Item-total statistics of ECLSS

<i>Item-total Statistics</i>				
	<i>Scale Mean If Item Deleted</i>	<i>Scale Variance If Item Deleted</i>	<i>Item-Total Correlation</i>	<i>Cronbach Alpha If Item Deleted</i>
1	222.43	870.199	.739	.978
2	222.46	867.550	.754	.978
3	222.49	864.721	.796	.978
4	222.55	865.658	.790	.978
5	222.60	865.851	.737	.978
6	222.19	872.442	.738	.978
7	222.41	864.599	.802	.978
8	222.36	869.091	.760	.978
9	222.60	872.562	.653	.978
10	222.21	877.264	.667	.978
11	222.52	870.743	.674	.978
12	222.48	863.437	.809	.978
13	222.42	865.007	.799	.978
14	222.69	879.030	.511	.978
15	222.71	881.600	.469	.979
16	222.70	872.842	.647	.978
17	222.64	875.934	.557	.978
18	222.54	868.473	.706	.978
19	222.38	870.672	.716	.978
20	222.37	870.526	.694	.978
21	222.37	871.512	.690	.978
22	222.43	870.881	.641	.978
23	222.45	879.629	.529	.978
24	222.31	876.506	.589	.978
25	222.17	874.100	.725	.978

26	222.09	874.293	.756	.978
27	222.13	870.449	.764	.978
28	222.34	870.379	.716	.978
29	222.17	874.051	.701	.978
30	222.21	874.227	.693	.978
31	222.03	879.179	.663	.978
32	222.25	872.004	.744	.978
33	222.49	867.947	.719	.978
34	222.77	872.797	.609	.978
35	222.41	871.779	.718	.978
36	222.41	873.663	.735	.978
37	222.49	872.640	.737	.978
38	222.47	874.462	.704	.978
39	222.32	871.486	.783	.978
40	222.26	882.881	.554	.978
41	222.53	882.021	.505	.978
42	222.63	885.139	.442	.979
43	221.98	884.561	.566	.978
44	222.01	884.931	.550	.978
45	221.96	883.844	.591	.978
46	221.94	886.111	.544	.978
47	222.23	880.402	.651	.978
48	222.26	878.753	.686	.978
49	222.16	877.334	.685	.978
50	221.95	879.997	.660	.978
51	221.89	881.132	.658	.978
52	221.91	880.864	.652	.978
53	221.90	882.033	.625	.978
54	221.89	879.299	.664	.978
55	221.95	878.686	.645	.978
56	222.61	880.748	.414	.979

As it is seen in Table 6, the lowest value obtained for corrected item-total correlation of ECLSS is .41. It is recommended for corrected item-total correlations to be above .30 point (Field, 2013).

CONCLUSION AND DISCUSSION

Within the scope of the study, the validity and reliability of an Early Childhood Life Skills Scale was examined. The ECLSS scale was developed to analyze the life skills levels of 48-72 month-old children. A total of 10 experts were consulted within the scope of the study and content validity rates were determined in line with the opinions received from them. In the technique developed by Lawshe, the lowest value the items can receive is accepted as 0.62 for content validity which is calculated by obtaining 10 expert opinions (Yurdugül, 2005). For this reason, 8 items which had a 0.6 value were removed from the scale after receiving the expert opinions. The final scale consisted of 56 items. As the second step, factor analysis was conducted in order to determine the construct validity of the scale. The result of the KMO test conducted for exploratory factor analysis was found to be .96 and Bartlett's Test of Sphericity ($p < 0.01$) was found significant. The factor loadings for the ECLSS items were analyzed and no item was seen to have a factor loading below .30. Thus, all items were retained as essential.

As a result of the exploratory factor analysis, it was found that the scale consisted of a single factor and 56 items, while the factor explained 47.24% of the total variance in relation to the scale. As a result of the confirmatory factor analysis, it was determined that the one dimension structure of the scale generally fits the collected data, regression coefficients and t values were significant and validated. In order to determine the degree of consistency of the responses to scale items, a reliability analysis was conducted. Reliability analysis was performed by calculating the Cronbach Alpha coefficient and item-total correlation coefficient. For the Cronbach Alpha (α) coefficient to be accepted, the value needs to be 0.70 or above (Evci & Aylar, 2017). The reliability coefficient was calculated as .98 for the single factor of the scale. Tezbaşaran (1997) states that a reliability coefficient needs to be as close to 1 as possible in a Likert-type scale to be considered sufficient. In line with this value, it can be acknowledged that the whole scale has a high level of reliability. Following the validity and reliability studies, the ECLSS was introduced to the field as a five-point Likert scale consisting of 56 items and one dimension. There is no item that needs to be reversed in the scale. It takes approximately 10 minutes to apply the scale for each child. The lowest score that can be obtained from the scale is 56, the highest score is 280 and the evaluation is made on the basis of an average of the total score.

It was seen in the literature review that very few studies can be found in our country on evaluating individuals' life skills levels and that a majority of them have been intended for secondary school, high school and university students. For example; Bolat and Balaban (2017) developed a measurement tool consisting of 30 items and 5 factors to evaluate life skills levels of university students. Şimşek (2019) conducted the Turkish adaptation study of the "Late childhood life skills education" scale. The results of the factor analysis revealed that the Life Skills Education (LSE) Scale had a five-factor structure differently from the original scale and consisted of 16 items, which was fewer than the number items (24) composing the original sale. Özmete(2008) developed a scale to measure the youth's life skills in terms of personal

development, health, family life, consumer training and financial planning, and career planning. Kutsal and Nazlı (2021) carried out the “Developing the Life Skills Scale-High School Form: Validity and Reliability Study” intended for students at high school level. The five-point Likert type scale consists of 16 items and four subscales (self-knowledge, interpersonal communication, responsibility and career planning).

As for measuring preschool children’s life skills, the “Preschool Life Skills Scale” developed by Yıldırım (2017) within the scope of a doctoral dissertation has been encountered. The scale was designed in the 5-point Likert type and consisted of 44 items and 7 factors as a result of the validity- reliability study. The scale includes questions to evaluate the skills of “Social Life”, “Responsibility”, “Self-Awareness”, “Gender Awareness”, “Decision-Making”, “Survival” and “Self-care”. The validity and reliability study of the scale showed that the Cronbach’s Alpha Coefficient was .95 for the first Factor, .89 for the second Factor, .86 for the third Factor, .89 for the fourth Factor, .92 for the fifth Factor, .83 for the sixth Factor, .87 for the seventh Factor and the overall scale had a reliability coefficient of .95. The reliability coefficients calculated for each factor and the total scale were concluded to have a high-level reliability. The Early Childhood Skills Scale, which was tested for validity and reliability by the present study, was found to have a high reliability coefficient similarly to Yıldırım’s (2017) “Preschool Life Skills Scale”, but unlike the given scale, it includes questions concerning all 10 of the basic life skills highlighted by the World Health Organization.

RECOMMENDATIONS

The following can be recommended in line with the results:

- Within the scope of this study, only teacher opinion was consulted. New studies can also be conducted by receiving parent opinions.
- The Early childhood life skills scale is based on teacher or parent observations. Further tests can be developed to demonstrate children's life-skill levels by working one-to-one with children.

Acknowledgment

The Early Childhood Life Skills Scale was developed within the scope of the researcher’s doctoral research and published in her thesis titled “The effect of life skills program on five years old children’s life skills, self-perception and social emotional adaptation levels”.

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