Identifying Psychometric Properties of the Social-Emotional Learning Skills Scale

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Abstract

This study aims to develop a comprehensive scale of social-emotional learning. After constructing a wide range of item pool and expertise evaluation, validity and reliability studies were carried out through using the data-set of 439 primary school students at 3rd and 4th grade levels. Explarotary and confirmatory factor analysis results revealed a valid and reliable 27-item, seven-factor model including the following factors: Relationship among Friends, Perception of Friendship, Persistence, Success, Self-Management, Impulse Control and Self-Confidence. Cronbach Alpha coefficient is calculated as 856 for the whole scale.

Keywords: *Social-emotional learning skills, scale development, psychometric properties, validity, reliability*

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Introduction

Social-Emotional Learning has become popular following the research conducted upon *Multiple Intelligence* (Gardner, 1993) and *Emotinoal Intelfligence* (Goleman, 1995) since 1990s (Çapan, 2006; Zins ve Elias, 2006). Social-emotional learning can be explained as the capacity to deal with behaviors, cognition and emotions, and establishing positive relationships through increasing the academic, social and emotional achievements of children (Kabakçı & Korkut-Owen, 2010; Waltz, 2013; Zins & Elias, 2006). Collaborative for Academic, Social and Emotional Learning ([CASEL] 2013), which is a leading institution that has a mission to develop social-emotional learning skills of students from pre-primary to upper secondary education and to support conducting research about it, indicates that social-emotional learning involves knowledge acquirement, understanding and managing emotions, determining positive goals and spending effort to reach these goals. Besides, social-emotional learning also involves understanding and emphatizing other people's feelings, establishing and maintaining relationships and effective decision-making skills. It has been emphasized since early 2000s that students' social-emotional learning skills as well as their cognitive development influence their academic achievement (Lopes & Salovey, 2004; Zins et al., 2004a). Research highlights the importance of social-emotional learning programs that influence the academic achievement of students in all grade levels from pre-primary to high school education (Diekstra, 2008; Greenberg, Weissberg, O'Brien, Zins, Fredericks, Resnik, & Elias, 2003; Wilson, Gottfredson, & Najaka, 2001; Weissberg, Kumpfer, & Seligman, 2003; Zins, Weissberg, Wang, & Walberg, 2004).

Similar to most countries in the world, Turkey has recently focused on the development of students' social-emotional learning skills. Ministry of National Education (MoNE) in Turkey has updated the primary school curriculum [1st – 8th grade levels] by adding a lesson named as *Emotional and Social Development* in 2012. Thus; the number of research conducted on social-emotional learning has been increased. Within this framework, the requirement for a scale development has emerged in order to understand social-emotional learning skills of students. The literature revealed that social-emotional learning involves several skills. CASEL (2013) explains the concept of social-emotional learning through the skills of self-awareness, self-management, social awareness, establishing and maintaining relationships and responsible decision-making skills. In the *Emotional and Social Development* lesson program in Turkey social-emotional learning is explained through self-acceptance, communication, understanding feelings, emotional-rational management, and problem-solving skills. These skills are also considered important by CASEL.

Establishing a relationship has a significant role in social-emotional learning among the skills mentioned above. CASEL (2013, p. 4) defined social and emotional larning as a 'process through which children and adults acquire and effectively apply the knowledge, attitudes, and skills necessary to understand and manage emotions, set and achieve positive goals, feel and show empathy for others, establish and maintain positive relationships, and make responsible decisions'. Relationship among Friends and Perception

of Friendship refer to the potential of an individual to establish a relationship with people. Besides, students who have well-developed social and emotional skills have high level of achievement and self-esteem. Moreover, Self-management skill can be explained as coping with one's own feelings, thoughts and behaviors effectively and Impulse Control refers to keep one's impulses under control take also important place for social-emotional learning (Bar-On, Tranel, Denburg & Bechara, 2004; Bodrova & Deborah, 2007; Denham, 2006; Frey, Hirschstein & Guzzo, 2000; Zins et al., 2004). As emphasised above, social-emotional learning is related to both social life and feelings of students. Managing feelings and thoughts directing one's life make him/her stronger concerning the social and emotional aspects. On the other hand, many students with low level of social-emotinal learning skills have some problems such as behavioral disorder and violence tendency. This can be explained through managing the instinctual behaviors. Therefore, the literature emphasizes the importance of social-emotional learning which helps students to gain self-awareness via controlling impulses. Thus, this study aims to develop a scale involves these skills that help us to understand students' social-emotional learning skills.

Previous studies demonstrated that there are several scales on social-emotional learning developed for primary school students (Bernard, 2003; Coryn et al., 2009; Merrel, 1993; Gresham & Elliot, 2008; Baydan, 2010). These scales usually focused on the aspects such as academic skills, interrelationships and self-management (Merrel, 1993), social skills, problem behaviors and academic performance (Gresham & Elliot, 2008), task achievement, peer relationships and self-regulation (Coryn et al., 2009), emotional skills, social skills, learning skills, house, school, and society (Bernard, 2003). Some research highlights mainly problematic behaviors of social skills (e.g. Merrel, 1993). However, some studies focused on social skills without considering emotional skills (Gresham & Elliot, 2008; Coryn et al., 2009). Bernard (2003) developed a scale of social-emotional learning in which the aspects of the school, house and society as well as social, emotional and learning skills are emphasised. Besides, there is also some research conducted in Turkey (Baydan, 2000; Arslan & Akın, 2013). For example, Baydan (2000) developed the Scale of Social-Emotional Learning Skills Perception that consists of the dimensions like communication skills, problem solving skills, etc. to understand the perception of social-emotional skills of students who are at 4th and 5th grade. In addition, Arslan and Akın (2013) adapted the Social-Emotional Learning Scale developed by Coryn et al. (2009). The scale dimentions consisted of task achievement, peer relationships and self-regulation.

Collectively, these studies indicate that the relationship between emotional and academic skills have not been examined sufficiently. However, the literature pointed out that social, emotional and learning skills complete each other (CASEL, 2013). Therefore, the studies especially in Turkey highlight the need for a scale which considers social, emotional and academic aspects of learning skills together for primary school students.

Thus, unlike the scales developed previously, this study attempts to integrate the aspects of social-emotional learning skills which emphasize the dimension of *persistence* and *success* which indicated the relationship between the academic achievement and social-emotional learning. So far; although the literature pointed out the relationship between social-emotional development and academic achievement, there are limited number of scales developed that considers this issue. For instance, social-emotional learning programs such as You Can Do It!, RULER, and 4Rs emphasise this through considering persistence, realizing, understanding, as well as behaving respectfully, being organized, establishing relationships, making decisions. This helps us to explore the relationship between social-emotional and academic learning skills. Many of the scales investigating this relationship mostly were conducted to evaluate the results of particular a social-emotional learning program focused on the issues including social skills, problem behaviors, aggressiveness, hostility, violence, task completion, and peer relationships or social-emotional learning skills of a disadvantaged students having problem behaviors. This indicates that there is a need for a more comprehensive scale of social-emotional larning for students who do not need special treatment. For this reason, the scale developed in this study considered the skills of relationship among friends, perception of friendship, persistence, success, self-management, impulse control and self-confidence.

Although previous studies indicated that limited number of scales recognize the relationship between social-emotional and academic skills (Bernard, 2003 [The Social Emotional Well-Being Survey]), there is no such scale developed for Turkish students. Accordingly, this study emphasizes the aspects differ from the existing scales such as impulse control, friendship perception, continuity, and self-confidence as well as relationship among friends, perception of friendship, persistence, success, self-management, impulse control and self-confidence. Therefore, this study has a significant contribution to both national and international literature.

Regarding the explanations above, this study seeks to develop a valid and reliable scale for measuring social-emotional learning skills of primary school students in 3rd and 4th grade levels regarding the developments in Turkey as well as throughout the world.

Method

Study Design

This research was designed as a scale-development study to understand the social-emotional learning skills of primary school students in 3rd and 4th grade levels. First of all, the researchers examined the relevant literature in debth and analyzed the previous scale-development studies of social-emotional learning. Afterwards, the structure was outlined and in the scale, they focused on issues such as; social skills, self-awareness, self-management, social awareness, communication, and effective decision-making skills.

Some of the social-emotional learning programs as well as the Emotional and Social Development program (TTKB, 2012) in Turkey drawn attention to the relationship between social-emotional learning and academic achievement. Within this context, a 107-item pool was generated. An item pool should have items as much as possible regarding the concept to be measured (DeVellis, 2012). However, considering developmental characteristics of 3rd and 4th grade level students and reviewing the previous scales of similar age groups; a 107-item scale was decided too long for this age level (Bilek, 2009; Evergreen & Coryn, 2012). Accordingly, the items were reviewed and the ones have similar meanings were excluded from the scale. Thus, the number of items was finally decreased to 67 items.

The scale was sent to three experts for their review regarding content validity. Necessary amendments were applied. Through the experts' suggestions number of items was decreased to 42 in the scale. The items were also examined by a Turkish Language Teaching expert to understand whether they are clearly understood. Thus, several changes were also made as a result of the feedbacks received. Furthermore, the scale was given to a primary school teacher and 6 primary school students who attend 3rd or 4th grade for proof reading. Both students and the teacher were asked to mark the items which they did not find clear and understandable. They made suggestions about the items. Thus, the final version of the scale was ready to be administered to the study group. 3-point Likert-type scale which includes the expressions of "*always*", "*sometimes*", and "*never*" was used in this study.

Sampling

The population of research consists of 12 primary schools located in the central district of Canakkale Province. The classrooms of 3rd and 4th grade levels in these 12 primary schools were listed in order to use simple random sampling. Then, the participants were accessed randomly until the required sample size was provided. A total of 439 students from 5 primary schools located in the central district were reached throughout the data collection during the 2014-2015 academic years.

There are different views by researchers regarding the number of minimum sample size for the factor analysis. While some researchers point out that at least 300 particiants are required for a reliable number of sample size (Tabachnick & Fidell, 2001; Çokluk et al., 2012), Kline (1994 as cited in Çokluk et al., 2012) stated that 50 is too low, 200 is rather enough, 300 is enough, 500 is highly enough and 1000 is perfectly fine. The population in 3rd and 4th grade levels in the primary schools in Canakkale consisted of 2500 students in 3rd and 4th grades. Accordingly, a sample of over 400 students was considered adequate for this study.

Findings

Exploratory Factor Analysis

Exploratory Factor Analysis (EFA) was performed in order to explore the factor structure of the scale. First of all, Kaiser-Meyer Olkin (KMO) and Bartlett's Test of Sphericity (BTS) were applied in order to test the adequacy of sampling and data-set suitability for performing factor analysis. The findings regarding KMO and BTS were presented in Table 1.

Table 1: *KMO and Bartlett's Test Values*

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,872
Bartlett's Test of Sphericity	Approx. Chi-Square	2344,321
	df	375
	Sig.	,000

As observed, correlation coefficients and partial correlation coefficients were compared. KMO should be greater than .50 (Kalaycı, 2009). Therefore, values under .50 are not acceptable for the test of KMO measure of sampling adequacy (Kaiser, 1974 as cited in Şencan, 2005). KMO values between 0.50-0.60 are considered insufficient, 0.60-0.70 reasonable, 0.70-0.80 medium, 0.80-0.90 good, and the values greater than 0.90 are considered very good (Büyüköztürk et al., 2012; Field, 2009; Kalaycı, 2009; Şencan, 2005). As shown in Table 1, KMO value is 87.2% (.872) >.50 and Bartlett's test is calculated as .000 < .50 showed a significant result. Therefore, based on the findings from KMO and BTS, the data-set was decided as suitable for performing EFA.

Results of the eigenvalues and percentages of variances explained through the EFA are presented in Table 2.

Table 2: *Eigenvalues andPercentages of Variances*

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5,953	22,896	22,896	5,953	22,896	22,896	2,813	10,821	10,821
2	1,484	5,708	28,604	1,484	5,708	28,604	1,987	7,641	18,461
3	1,397	5,374	33,978	1,397	5,374	33,978	1,955	7,521	25,982
4	1,269	4,882	38,860	1,269	4,882	38,860	1,888	7,262	33,244
5	1,236	4,752	43,612	1,236	4,752	43,612	1,714	6,593	39,837

6	1,115	4,289	47,901	1,115	4,289	47,901	1,642	6,317	46,154
7	1,059	4,073	51,975	1,059	4,073	51,975	1,513	5,820	51,975
8	,976	3,756	55,730						
9	,902	3,470	59,200						
10	,865	3,329	62,529						
11	,850	3,270	65,799						
12	,804	3,093	68,893						
13	,746	2,871	71,763						
14	,731	2,811	74,574						
15	,697	2,683	77,257						
16	,669	2,572	79,829						
17	,639	2,460	82,288						
18	,631	2,428	84,716						
19	,599	2,304	87,020						
20	,583	2,243	89,263						
21	,535	2,058	91,321						
22	,523	2,011	93,332						
23	,450	1,731	95,063						
24	,448	1,722	96,786						
25	,431	1,657	98,443						
26	,405	1,557	99.345						
27	.491	1.456	100,00						

As Table 2 shows, the scale has a seven-factor structure and consists of 27 items. The seven factors explain 51.9% of the total variance.

Table 3 reveals the results of the rotated component matrix. The table includes the factor loadings for each item in the scale of social-emotional learning skills.

Table 3: *Rotated Component Matrix*

	Component						
	1	2	3	4	5	6	7
Item 1	,664						
Item 2	,610						
Item 3	,596						
Item 4	,548						
Item 5	,533						
Item 6	,530						
Item 7	,501						
Item 8	,491						
Item 9		,708					
Item 10		,664					
Item 11		,456					
Item 12			,707				
Item 13			,676				
Item 14			,543				
Item 15				,713			
Item 16				,678			
Item 17				,657			
Item 18					,715		
Item 19					,639		
Item 20					,610		
Item 21						,723	
Item 22						,651	
Item 23						,462	
Item 24						,461	
Item 25							,730
Item 26							,501
Item 27							,456

Factor loadings are considered as one of the important values in EFA. Stevens (2002; cited in Field, 2009) suggested that values explaining 16% of total variance and having factor loadings greater than .40 should be taken into consideration during factor analysis. Thus, the items #7, #15, #17, #24, #28, #29, #37, and #42 with a factor loading under .40 were excluded from the scale. According to Şencan (2005), each

factor should have at least three items. For this reason, the factors having less than three items were also excluded from the scale even though their factor loadings are greater than .40. Thus, the items, #1, #4, #5, #8, #9, and #18 were also excluded from the scale because of the factors they pertain has less than three items. The items of #22 and #23 with a factor loading greater than .40, associated with two separate factors were also excluded from the scale. As a result of the EFA, the scale had a seven-factor structure that consisted of 27 items. In the final version of the scale, there are 8 items under the Friendship Perception factor, 3 items under the Success factor, 3 items under the Self-Management factor, 3 items under the Relationship among Friends factor, 3 items under Impulse Control factor, 4 items under the Self-Confidence factor, and finally 3 items under the Persistence factor.

Cronbach's Alpha coefficient is one of the techniques to test the reliability of the scales (Evin Gencel & Güzel Candan, 2015). Thus, Cronbach's Alpha coefficient was utilized to examine the reliability of the scale and its factors. The Cronbach's Alpha value for the subscales calculated as .759 for Friendship Perception, .600 for Success, .564 for Self-management, .609 for Relationship among friends, .539 for Impulse Control; .529 for Self-confidence, and .510 for Persistence. Overall, the Cronbach's Alpha coefficient for the whole scale is calculated as .856. This pointed out that the scale is highly reliable (Kalaycı, 2009). Another technique to test the reliability of the scales through calculating the Pearson Correlation coefficients. For this reason, the scale was applied to a 144-student sub-sample twice within a 4-week time period. The findings regarding the Pearson Correlation coefficients were presented in Table 4.

Table 4: *Pearson Correlation Coefficients*

		Application 1	Application 2
Application 1	Pearson Correlation	1	,984**
	Sig. (2-tailed)		,000
	N		144
Application 2	Pearson Correlation	,984**	1
	Sig. (2-tailed)	,000	
	N	144	

Table 4 shows that the Pearson Correlation coefficient was calculated as r=.984 (p< .05) for the scale. This revealed that there was a high level of positive significant correlation between two applications. When the value of correlation coeffient (r) is getting closer to +1, it means a strong relationship exists (Büyüköztürk, 2011; Kalaycı, 2009).

The factorial structure of the Scale of Social-Emotinoal Learning Skills found out through EFA was also tested through using Confirmatory Factor Analysis (CFA) in order to understand whether it was confirmed as a model or not.

Confirmatory Factor Analysis

LISREL 8.7 was used for carrying out the Confirmatory Factor Analysis (CFA). The factorial structure of the scale including seven factors and 27 items was tested through using CFA. The goodness of fit indices were found as x^2 = 501.49, df = 303, RMSEA= 0.038, NFI = 0.92, NNFI = 0.96, CFI = 0.97, GFI = 0.92 and AGFI = 0.90.

Chi-Square test statistic (χ^2) is the criteria for common goodness of fit test (Yılmaz & Çelik, 2009). It 'assesses the magnitude of discrepancy between the sample and fitted covariances matrices' (Hu and Bentler, 1999: 2). Chi-Square/Degree of Freedom (χ^2/df) ratio should be small for a good model (Yılmaz & Çelik, 2009). $X2/df \leq 5$ indicates a moderatel fit level; χ^2/df ≤ 3 showes perfect fit level (in large samples); χ^2/df ≤ 2 also show perfect fit level (Kline, 2000; Sümer, 2000; Tabachnick & Fidell, 2001). The Chi-Square/Degree of Freedom (χ^2/df) was found in this study as 1.65 which indicates a perfect fit level (χ^2/df = 1.65).

Another fit index used in CFA is Root Mean Square Error of Approximation (RMSEA). RMSEA was calculated as .038 (RMSEA = 0.038) for this scale. RMSEA is used to estimate the population covariance matrices within the non-central chi-square distribution (Çokluk et al., 2012). RMSEA values range from 0 to 1 and it indicates perfect fit as the values getting closer to 0 (Çokluk et al., 2012; Tabachnick & Fidell, 2001). To have a satisfactory model RMSEA fit index cut-off value should be close to 0.60 (Hu & Bentler, 1999). RMSEA $\leq$ 0.10 indicates poor fit (Browne & Cudeck, 1993 as cited in Yılmaz & Çelik, 2009), RMSEA $\leq$ 0.80 indicates close fit (Hooper, Coughlan & Mullen, 2008), and RMSEA $\leq$ 0.50 indicates perfect fit (Schumacker & Lomax, 2010). Thus RMSEA value calculated in this study points out perfect fit.

According to CFA results, Normed Fit Index (NFI) is calculated as 0.92 and Non-normed Fit Index (NNFI) is calculated as 0.96. NFI and NNFI values for both NFI and NNFI range between 0 and 1 (Çokluk et al., 2012; Tabachnick & Fidell, 2001; Yılmaz & Çelik, 2009). NFI $\geq$ 0.90 implies good fit (Hu & Bentler, 1999; Schumacker & Lomax, 2010), NFI $\geq$ 0.95 implies perfect fit (Tabachnick & Fidell, 2001). Greater NNFI values indicate better fit (Yılmaz & Çelik, 2009). NNFI $\geq$ 0.95 indicates perfect fit (Hu & Bentler, 1999; Schumacker & Lomax, 2010). Thus, results revealed that NFI = 0.92 indicates good fit and NNFI = 0.96 indicates perfect fit in this study.

Goodness of Fit Index (GFI) and Adjusted Goodness of Fit Index (AGFI) were developed by Jöreskog and Sörbom as an alternative to Chi-Square in order to test model fit independent from sample size (Çokluk et al., 2012). GFI $\geq$ 0.90 points out good fit (Hu & Bentler, 1999; Schumacker & Lomax, 2010), GFI $\geq$ 0.95 points out perfect fit (Hooper, Coughlan & Mullen, 2008), AGFI $\geq$ 0.90 implies good fit (Schumacker & Lomax, 2010), and AGFI $\geq$ 0.95 implies perfect fit (Hooper, Coughlan & Mullen, 2008). The goodness of fit indices in this research calculated as GFI = 0.92 and AGFI = 0.90 which indicate good fit. The results also releaved that there was a significant correlation (r = 0.7) between the error covariances of

the items, #4 and #6. It was realized that the items were under the same latent variable within the scale. However, they did not substitute each other regarding their meanings. The researcher, then, decided to retest the structural model through adding the high error covariance matrices observed between the items. After that, the GFI and AGFI values were found to be 0.93 and 0.91 respectively.

Comparative Fit Index (CFI) analyzes the model fit by examining the discrepancy between the data and the hypothesized model, while adjusting for the issues of sample size inherent in the chi-squared test of model fit, and the normed fit index (Tabachnick & Fidell, 2001). CFI values range from 0 to 1 (Tabachnick & Fidell, 2001). CFI $\geq$ 0.90 indicates good fit (Hu & Bentler, 1999), CFI $\geq$ 0.95 indicates perfect fit (Hu & Bentler, 1999; Schumacker & Lomax, 2010). The comparative fit index was calculated for this scale as CFI= .97 which pointed out a perfect fit. The fit index values obtained from CFA were presented in Table 5.

Table 5: *Social-Emotional Learning Skills Scale Fit Indices*

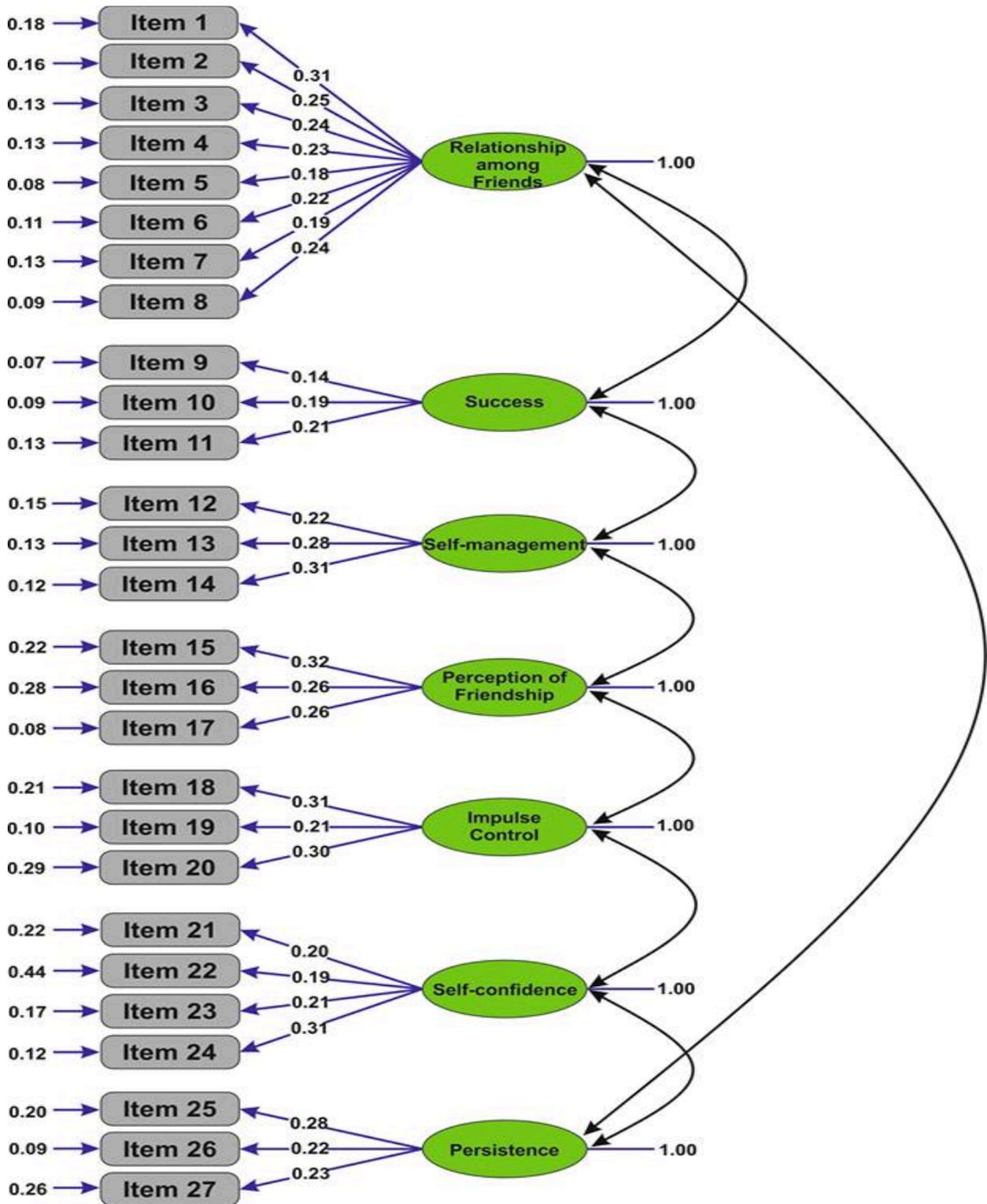| Fit Indices	Social-Emotional Learning Skills Scale
x^2	501.49 (p= 0.00)
x^2/ df	1.65 (501.49/303)
RMSEA	0.036
NFI	0.92
NNFI	0.96
GFI	0.93
AGFI	0.91
CFI	0.97

Figure 1: *Path Diagram*

Conclusion, Discussion and Suggestions

As a result of this study, a valid and reliable scale was developed to understand primary students' social-emotional learning skills in depth. The previous scales of social-emotional learning generally focused on problematic and disadvantaged students or they have been conducted to understand the effects of particular programs about social-emotional learning. The scales generally considered the social-emotional learning skills that emhasised in the particular programs. By contrast, this indicates the need for a scale that examines primary students' social-emotional learning skills in depth. Thus, the Scale of Social-Emotional Learning Skills developed in this study examined the social-emotional learning regarding the dimensions of Relationship among Friends, Friendship Perception, Persistence, Success, Self-Management, Self-Confidence, and Impulse Control.

During the generation of the item pool in the scale development process, issues like learning skills, self-awareness, self-management, social-awareness, establishing relationships, and effective decision-making skills were taken into consideration. However, validity and reliability analyses results showed that learning skills dimension seperated into two factors named as success and persistence. Similarly, different studies also addressed that learning skills involves success and persistence (Bernard, Mangum & Urbach, 2012). Besides, the literature on social-emotional learning have also considered the dimesions of persistence and success separately while persistence refers to being consistent to achieve (Bender & Wall, 1994; Elias, 1997; Payton, Weissberg, Durlak, Dymnicki, Taylor, Schellinger & Pacnan, 2008) success refers the capacity of using knowledge (Durlak et al., 2011, Elias & Arnold, 2006; Greenberg et al., 2003; Zins, 2004; Zins et al., 2004). This, draw attention to the need for the examination of these two dimensions and emphasized the role of these dimensions in social-emotional learning.

Validity and reliability analyses releaved that self-awareness skill refers to the awareness of one's own feelings and thoughts was placed in the self-confidence factor in this study. This might be explained by high level of self-confidence of students who are aware of their own feelings and thoughts; and thus, evaluate their capacity accurately. Furthermore, while self-management skill remained same in the dimension, impulse control is appeared as a different dimension from the self-management skills. Impulse control has an important place of emotional intelligence (Salovey & Mayer, 1989; Atabek, 2000). There are studies related to emotional intelligence, which were conducted for different age groups, and used the scales involves the dimension of Impulse Control (Bar-On, 1997; Çelik, Yıldırım, Metin, Tahiroğlu, Toros, Avcı, Öngel & Karayazı, 2011). Social-emotional learning studies are substantially based on the research on emotional intelligence (Cohen, 1999; Çapan, 2006). Therefore, it seems that the literature supports the consideration of impulse control and self-management skills seperately.

Establishing relationships skill refers to establishing healthy relationships with people was examined in two dimensions in the scale. One of them is named as Relationships among Friends and another one is Friendship Perception. Previous studies investigating social relationships for similar age groups pointed out the importance of friendship perception (Bloemer, Odekerken-Schröder & Kestens, 2003; Hunter & Elias, 1999; Grime, 2005; Li & Lai, 2007; Öpengin & Sak, 2012) and relationship among friends skills (Avcı, 2009; Çelik, 1994; Hilooğlu & Cenkseven-Önder, 2010; Parker & Asher, 1993; Valkenburg & Peter, 2006). Establishing relationships with people is one of the developmental features for children in their childhood (Demir & Kaya, 2008). These relationships make great contribution to children's social develoyment (Guralnick, 2005). The way children perceive is of great importance in social-emotional learning (Demir & Kaya, 2008). Considering, friendship perception and relationship among friends separately in this study can be explained by the reason that student establishing relationship among friends depends on the students' perceptions of friendship.

The items regarding the social awareness dimension implies the adaptation to the enviroment and conditions in which individual exists (Doğan, Totan & Sapmaz, 2009) were excluded from the scale since they have low factor loadings as a result of validity analyses. The literature indicates that the concept of social awareness related to social intelligence (Goleman, 2006) has been embedded into early childhood education as well as social studies curricula in Turkey (Doğan, Totan & Sapmaz, 2009; Demir & Doğanay, 2010; Gülay, 2009; Kaf, 2000). However, the sample of these studies consisted of older age groups (Ardahan, 2012; İlhan & Çetin, 2014; Tagay, Baydan & Acar, 2010).

The results revealed that items concerning the effective decision-making dimension were also excluded from the scale due to the low factor loadings. Decision-making refers to one's making wise and healthy decisions on behalf of him/herself or other people (CASEL, 2013). Previous literature showed that studies regarding decision-making were also carried out with adult participants in Turkey (Çelikten, 2001; Karaköse & Kocabaş, 2006; Üstün ve Bozkurt, 2003). By contrast, there are several studies in the international literature investigating effective decision making skills of children and young people (Copple & Bredekamp, 2009; Lansdown, 2001; Treseder, 1997). This may indicate that cultural variables and differences in a sociatey and education systems influence the way we develop effective decision making skills.

As a result of this study, The Social-Emotional Learning Skills Scale was developed for measuring the social-emotional learning skills of primary school students in 3rd and 4th grades in depth. Since there is no other valid and reliable scale developed for primary school students in 3rd and 4th grade level previously in Turkey, this study has an important contribiution. In future, the scale should also be re-tested for its validity and reliability to understand the social-emotional learning skills of students in older age groups. Besides,

parental and teacher forms might be generated to evaluate the social-emotional developments of students comprehensively from the parents and teachers point of view of their.

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