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## **The Development and Validation of the Emotional Literacy Skills Scale\***

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### **Abstract**

Emotional literacy is the ability to understand, express and regulate emotions in social contexts. It emphasizes the ability to communicate with certain feeling words in interpersonal relationships. It stands as a bridge between the thoughts and emotions of school stakeholders, contributing to more effective learning, safer schools, and a democratic climate (O'Hara, 2011). It is possible to teach emotions academically, even to make them a part of the curriculum (Antidote, 2003); however, it is essential to also see emotional literacy as a vital skill through the values of the school and the behaviors of teachers. Therefore, it is valuable to evaluate the emotions of teachers in the school environment. To do this, it was the aim of this study to develop a reliable and valid measurement tool -- the Emotional Literacy Skills Scale (ELSS). The validity of the model was confirmed via exploratory factor analysis and confirmatory factor analysis. We found a Cronbach Alpha reliability coefficient of .85. The findings showed that the Emotional Literacy Skills Scale is valid and reliable and formed by five factors: Motivation, empathy, self-regulation, emotional awareness, and social skills.

**Key words:** Emotional literacy skills, Scale development, Affective domain

### **Introduction**

A high-quality education in a country facilitates the economic, political, social, and cultural development of the society. Education does not offer a mass production system, but it is the most powerful and effective instrument that provides a "human" element for the needs of every institution and organization (Kayadibi, 2001, p. 74). "Teachers, the new generation will be your devotion," said Mustafa Kemal Atatürk, the founder of the Turkish Republic, to emphasize the teachers' qualifications in educating people. As seen in the Great Leader's words, the quality of education is directly related to the quality of teachers. Due to economic, social, and technological developments, new demands in education have also led to different expectations from the teachers. This has caused drastic changes and transformations in the teachers' identity. In the light of scientific and technological developments, it is of course a priority for teachers to adopt novel pedagogies and to support their social and professional development. However, teaching and learning are not just processes of cognition, knowledge, and skill -- they are emotional practices as well (Hargreaves, 2001). Teachers, the mediators of achieving affective goals in society, need to have competencies to recognize, regulate and express their feelings. Emotionally competent teachers set the tone of the classroom by establishing supportive and encouraging relationships with their students, coaching in conflict resolutions, encouraging collaborative work among students and acting as a role model for healthy communication and prosocial behavior (Gong et al., 2013).

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In Turkey, teacher competencies are determined by the Ministry of National Education (MONE). The report, which sets a framework for teacher education policies, published by MONE (2017) announced general competencies for teaching profession as:

Every teacher should have strong communication skills, be able to plan the teaching effectively, possess the required professional skills, and have substantial intellectual knowledge regarding his/her subject field. These qualifications, which are expected from a teacher to perform his/her profession properly, form the basis of teacher competencies (p. 7).

When we consider the competencies explained above, we can infer that the social processes, in which teachers use the affective skills, are ignored. In the past Şişman (2009, p. 76) criticized this situation as “Values corresponding to the affective domain were not included among the teacher competencies; perhaps because it was not possible to measure”. Concerned by a lack of focus on the affective domain in teachers we decided to develop a valid and reliable scale to measure, interpret, or define teachers’ emotional states, based on the concept of emotional literacy.

In the spirit of this research, emotional literacy refers to the sum of social, emotional, and behavioral skills that are necessary in all areas of the individual's school, family, and social life (Alemdar, 2018). This article reviews critically what we currently know (and do not know) about the concept and creates a measurement tool to determine how it is schooled in teachers' behaviors.

## Theoretical Framework

### *Emotional Literacy*

*Fish swim, birds fly, and people feel.* Sometimes we are happy, sometimes we are not; but sometimes in our lives, we are sure to *feel anger and fear, sadness and joy, greed and guilt, lust and scorn, delight and disgust.* While we are not free to choose the emotions that arise in us, we are free to choose how and when to express them, provided we know what they are (Ginott, Ginott & Goddard, 2003, p. 27).

Ginott et al. (2003) originates emotional literacy implicitly by emphasizing that emotions are a genetic heritage for humans. Emotions, if used as data sources, may serve to add meaning to real-life situations and to regulate relationships. So, it is important to be aware of emotions and to make the best use of their power. To this end, a significant growing body of research has recently been directed toward resolving conceptual and measurement issues related to emotional literacy skills (Antidote, 2003; Killick, 2006; Park, 1999; Weare, 2004).

Emotional literacy was first used by Steiner (1979) in his book 'Healing Alcoholism', referring to a skill which may solve affective complexities in and around people and requires behavioral results in social contexts. After its foundations laid by American Humanist Psychology studies (Park, 1999; Weare and Gray, 2003), the term gained popularity in Britain with psychotherapist Susie Orbach’s article in the 1970s. Steiner’s (2003, p. 11) famous definition “understanding your personal strength, quality of life, and your emotions to improve the quality of life of the people around you” highlighted the term and introduced it into the international research agenda. Various studies stress the ability to recognize, understand, handle and express emotions appropriately (Sharp, 2001; Weare, 2004). Antidote (2003), which is known for its emotional literacy studies, refers to emotional literacy as the practice of thinking about how emotions shape behaviors at an individual and collective level. This strong rationalist assumption positions the term at the core of the action, by stressing that thoughts enriched with emotions are the key to increasing emotional competence. Emotions prompt thinking skills rather than interfering with them, and creative, critical, and positive thinking styles, in turn, serve to shape emotional situations. Joseph, Strain, and Ostrosky (2005) emphasized the capability to describe, understand and respond to feelings in oneself and others. As well as depicting an active role on an individual basis, this expression underlines an effective use of the skills mentioned above to react to the emotional states of others. Emotional literacy requires competency to communicate with certain emotion words in interpersonal relationships. Based on that, Orbach (1998) simply summarizes it as the ability to ask “how are you?” and listen to the answer. In this research, the concept of emotional literacy has been used in a context that emphasizes a person's ability to acknowledge and express feelings, and to communicate through specific emotion words in interpersonal relationships. This definition differentiates between personal and social talents, underlining a whole set of skills.

Knowing how to express feelings tactfully is vital to explaining how we communicate and behave, what kind of a person we want to be, and why we should behave in a certain way on particular occasions (Alemdar, 2014). Understanding the universe within the context of emotions, here, involves enjoying our own emotions, listening to and responding to the needs of others, and correcting our emotional damage (Matthews, 2006). To meet all these emotional needs, it is necessary to carefully consider “how we feel”, that is, to read emotions like a book. The definitions above indicate a similarity between the theories of emotional literacy and emotional intelligence. In the literature, although some studies suppose that these two concepts can be used in parallel or interchangeably (Bocchino, 1999; Claxton, 2005; Killick, 2006; Perry, Lenny, & Humphrey, 2008), especially in the field of education, a clear distinction has been made by researchers (Dickson & Burton, 2011; Matthews, 2006; Park, 1999; Weare, 2004).

### *The Differences between Emotional Literacy and Emotional Intelligence*

Emotional literacy is a term that was first developed and mentioned in American Humanist Psychology studies in the 1970s. So, it is claimed that it has a longer history compared to emotional intelligence (Park, 1999). Also, these two concepts are used to indicate similar meanings in different geographies. Emotional literacy is frequently used in various projects, researches, publications, and conferences in the UK, while emotional intelligence appears more dominant in the United States (Carnwell & Baker, 2007; Holmes, 2016; Weare, 2004).

Emotional intelligence touches on the ability to deal thoroughly with emotions, while emotional literacy refers to communicating through emotional vocabulary (Alemdar, 2014). Steiner (2003) stated that emotional literacy is centered in the heart and this is the most important thing distinguishing it from emotional intelligence (Holmes, 2016). While emotional intelligence expresses an innate personality dynamic to be nurtured, emotional literacy is the unity of understanding, strategy, and skills that a person can develop throughout life (Mader, 2005). We can say that emotional intelligence is a characteristic or potential, on the other hand, emotional literacy is an understandable, learnable, and improvable skill. Emotional literacy may contribute to processing emotional intelligence capacity, e.g., empathy as a personality dynamic represents the emotional intelligence and using specific strategies and methods to increase this potential empathy and also employing it in socio-cultural processes represent emotional literacy (Kandemir & Dündar, 2008).

Emotional literacy requires taking responsibility both to understand our feelings and to organize our social relationships. Some studies have differentiated between the two concepts based on the semantic differences between literacy and intelligence terms (Matthews, 2006; Southampton Psychology Service, 2003). The term “intelligence” has accrued a negative connotation that would undermine the positive message (Sharp, 2001) and tends to suggest a capacity that is innate and fixed, not teachable (Ripley & Simpson, 2007; Weare & Gray, 2003). Matthew’s (2006) semantic differentiation has asserted that the term “literacy” is more related to language and the culture that can be improved by the use of language. Weare (2004, p. 2), also, has stated that those who are familiar with the term “literacy” (especially primary school teachers and language teachers) can get ideas from verbal literacy on how to define and teach social and emotional skills in the context of emotional literacy. The Southampton Psychology Service (2001) has supported this idea as the emotionally literate person should be able to name and read symbols and signs (psychological signs, facial expressions, other forms of non-verbal communication). Flynn (2010) also thinks that the term “literacy” is malleable for emotional development while emotional intelligence evokes a traditional fixed manner.

Emotional literacy is more relevant to education than the more commonly used emotional intelligence (Meekums, 2008; Stone, 2005); it focuses on the emotional health of the learner in emotionally related situations and qualifies the social environment in educational institutions (Coşkun, 2015). When we focus on the literature derived to differentiate between these two terms, emotional literacy seems more appropriate to the idea we want to impart through this study, as it emphasizes the ability to understand, manage and develop these skills over time in educational contexts (Rae, 2012).

### *Key Elements of Emotional Literacy*

Various models of emotional literacy offer a certain level of welfare for schools and individuals’ social life in many different contexts (Alemdar, 2014; Coşkun, 2015; Matthews, 2006). The notion of emotional literacy and its prominent components was first introduced by Steiner (1979, p. 19) as:

- Knowing your feelings,

- Having a sense of empathy,
- Learning to manage emotions,
- Eliminating emotional damage,
- The ability to integrate these four traits: emotional interactivity.

One of the major models to emerge was that of Faupel (2003). The two main domains in his model are personal competencies and social competencies. Personal competencies include self-awareness, self-regulation, and motivation, while social competencies cover empathy and social skills, and thus the model consists of five components. (Cited in, Killick, 2006, p. 12).

Weare (2004, p. 23) suggests that an individual's emotional literacy skill consists of some overlapping social and emotional competencies that can be divided into three basic groups:

- Self-understanding,
- Understanding, expressing and managing our emotions,
- Understanding and making relationships.

These three dimensions contain sub-skills that can be developed throughout childhood and adulthood in school and learning life. They include, positive and realistic self-concept, a sense of optimism, expressing emotions, social bonding (loving and trusting others), empathy, effective communication, etc. (Weare, 2004). This model focuses on practices and social environments aiming to improve the individual's emotional abilities.

Uzan (2018) summed up skills included in the emotional literacy models as: the individual capacity to name and characterize emotions felt, understanding why those emotions are felt, expressing them to the other people plainly, and taking control of emotions. Similarly, in their study, Kandemir and Dündar (2008) gathered emotional literacy components as: empathy, self-regulation, self-motivation, social skills, emotional awareness, managing emotions, removing emotional damage (emotional regulation), and problem-solving.

When the literature is examined, we can see two scale development studies (Akbağ, Küçüktepe, & Özmercan, 2016; Palanci, Kandemir, Dündar, & Özpolat, 2014). Both of those scales were developed focusing on similar traits in college students' samples. As we are more interested in the affective domain in teachers' context, in which we want to determine the current condition of teachers in Turkey and the effects of other variables, this study aims to develop a scale of emotional literacy with the validity and reliability studies.

## Method

This study is a scale development study. This part includes stages of development of the Emotional Literacy Skills Scale and the features of the participants.

### Study Group

The study involves teachers working in central districts of Eskişehir in the 2017-2018 academic year; 373 participants for exploratory factor analysis, 399 participants for confirmatory factor analysis. The teachers were chosen from different types of schools, e.g., Science High School, Social Sciences High School, Anatolian High School, Vocational and Technical Anatolian High School, Tourism Vocational High School, Trade Vocational High School, and Imam Hatip High School. The demographics of the research sample are presented in Table 1.

Table 1. Demographics of Participants

		Exploratory Factor Analysis		Confirmatory Factor Analysis	
Category		N	%	N	%
Gender	Female	144	38,6	223	55,9
	Male	215	57,6	176	44,1
	Unstated	14	3,8	-	-
	Total	373	100	399	100
Graduation	Education Faculty	254	68,2	226	56,6
	Faculty of Arts and Sciences	99	26,5	149	37,4
	Others (Vocational Ed. Fac., etc.)	12	3,2	24	6,0
	Unstated	8	2,1	-	-
	Total	373	100	399	100

Length of Service	1-5 Years	22	5,9	52	13,0
	6-10 Years	51	13,6	76	19,0
	11-15 Years	61	16,3	72	18,0
	16-20 Years	78	20,9	107	26,8
	21 Years +	68	18,2	82	20,6
	Unstated	93	25,1	10	2,5
	Total	373	100	399	100

The data regarding the gender of the teachers participating in the study shows that more males attended in exploratory factor analysis, while more females took part in confirmatory factor analysis. In both studies, the majority of the teachers are graduates of the Education Faculty and their length of service seems more or less the same.

## Process

The Emotional Literacy Skills Scale (ELSS) was developed in the context of teachers, and it is hoped to be used in adult samples by conducting validity and reliability studies. The scale development process should comprise several stages (DeVellis, 2012). The first step is to determine the purpose of the scale and to define the target audience (Şencan, 2005). Since the target audience of this study is teachers and the aim is to explore their emotional literacy skills, a detailed literature review has been done on the issue. The characteristics found in the most prominent studies were identified as “motivation, empathy, self-regulation, emotional awareness, and social skills” (Antidote, 2003; Killick, 2006; Steiner, 2003; Weare, 2004). In the following step, the items based on expressing the extent and content of sub-skills were written. Based on five dimensions, a total of 63-item pool was created. As stated in DeVellis (2014), having replacement items that represent the same item in the testing process provides strong items in the final version of the scale in case of omitting other items. The items were examined through a focus group interview with three faculty members working in separate fields and eight teachers who have a Master's or Ph.D. in Curriculum and Instruction. Five teachers in the focus group were also language experts, so they examined the items in terms of semantics. One of the faculty members works as an Assessment and Evaluation Specialist in education, the second one is a subject area specialist who had theses in emotional intelligence, and the last one is experienced in scale development in curriculum and instruction studies.

The items were evaluated in terms of content, meaning, and clarity of expression. Through 63 items, three items were removed due to the overlapping and contradictory expressions. Doctoral thesis monitoring committee members analyzed the items to affirm the content validity. The final 60-item-draft was revised in line with experts' opinions and feedbacks and was arranged using a five-point Likert scale ("1- Never True", "2- Rarely True", "3-Often True", "4- Usually True" and "5- Almost Always True").

IBM-SPSS 21 program for exploratory factor analysis, Lisrel 8.7 program for confirmatory factor analysis were used. The mean series were assigned for the missing data and then the normality of the data was tested. The data showed a normal distribution for each item since the values of kurtosis (ranging from .00 to -.61) and skewness (ranging from -.25 to -.43) were within acceptable limits (Kline, 2005; Hair et al., 2010). The conducted validity and reliability studies of the scale have been reported.

## Results

### Validity

Factor analysis is used to provide clues about the structure of the relationships between variables that are thought to be related (DeVellis, 2012). When the scale items match up with the theoretical knowledge in the literature, the factor analysis method should be applied before the reliability analysis if the aim is to develop a multi-dimensional scale measuring complex conceptual structures (Şencan, 2005). There are two types of factor analyses: exploratory and confirmatory. Exploratory factor analysis, which was often used to develop psychological tests at the very beginning, is an effective technique used to reveal longitudinal relationships in complex, multiple factored structures like intelligence, skills, etc. (Rasch, Kubinger, & Yanagida, 2011). Considering that the emotional literacy skill is made up of multiple dimensions, firstly exploratory factor

analysis was applied to determine the number and the nature of the factor structure. Principal Component Analysis method, which is used in social sciences as a factoring technique, has been used (Büyükoztürk, 2011).

#### Exploratory factor analysis (EFA)

For Exploratory Factor Analysis, the suitability of the sample for factor analysis was evaluated first. Suggested minimums for sample size include views like there should be at least five participants for each item (Şencan, 2005) or 300 people in total are sufficient for factor analysis (Field, 2013). So, a sample group of 373 people was considered as suitable for factor analysis, supported by a sufficient .83 Kaiser Meyer Oklin value. Also, Bartlett Test of Sphericity results ( $\chi^2(373) = 2817.718$  df:435  $p < .01$ ) indicated that the data set ensures multivariate normality. In the Principal Components Analysis, direct oblmin, was used as the factor rotation. The analysis was repeated several times; two items were removed due to the factor load below .30 and loading to more than one factor. In the EFA, the slope graph and the eigenvalues of the factors are also used for determining the number of factors. Figure 1 suggests a five-factor structure.

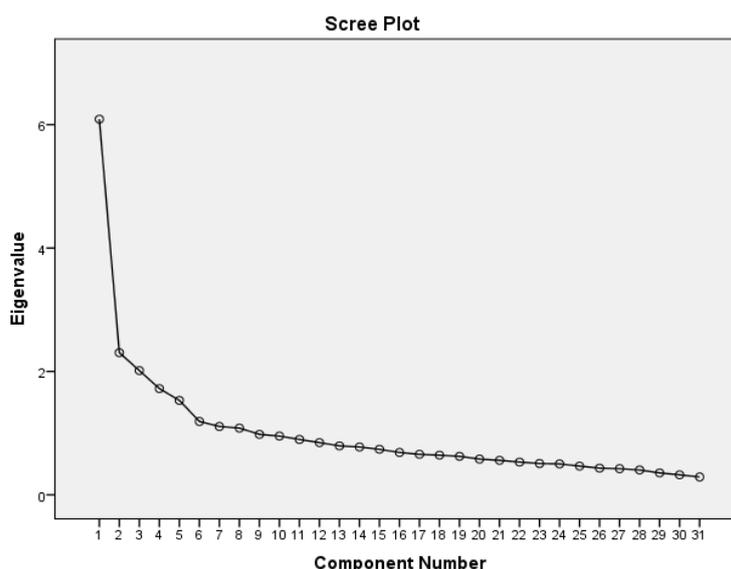


Figure 1. Scree Plot Chart of ELSS

Table 2. Exploratory Factor Analysis Results of ELSS.

Items	Factor Loadings				
	Motivation	Empathy	Self-regulation	Emotional awareness	Social skills
1. I believe I have to work hard to achieve a quality of life.	.689				
2. I consider most of the things I do as a waste of time.	.590				
3. I fulfill my duties or responsibilities properly.	.580				
4. I easily get distracted while completing a task.	.539				
5. I do everything with the thought that it contributes to me.	.527				
6. I believe each new day is a new opportunity to improve myself.	.519				
7. I leave things to the last minute.	.426				
8. I have the ability to articulate		.611			

the feelings of the people around me.					
9. I easily realize when someone is hiding his/her true feelings.	.577				
10. In an argument, I take into consideration the opinions of other people.	.480				
11. When I hurt someone, I can express my sadness.	.478				
12. I behave with an awareness of how impacts my attitudes have on other people.		.670			
13. I discern the difference between my feelings and behaviors.		.600			
14. When I lose a game or race, I question the underlying reasons.		.553			
15. If I feel inadequate about something, I immediately try to make up this deficiency.		.533			
16. Even when I'm angry, I weigh up all the options before doing something.		.531			
17. If the method I adopt while doing something does not prove effective, I try other ways out.		.521			
18. It is hard for me to identify my feelings.			.690		
19. I have difficulty in expressing my worries.			.632		
20. Sometimes I say, "I wish I were someone else."			.589		
21. I can express my feelings clearly.			.560		
22. I consider people around me have difficulty in understanding me.			.549		
23. I can plainly say why I am sorry.			.475		
24. I enjoy spending time with a circle of friends.				.716	
25. I care about the way I communicate with my friends.				.707	
26. I feel happy when I share things with my friends.				.662	
27. I often feel left out by my friends.				.623	
28. I spend most of my time alone.				.528	
29. I fail in social relations with my friends.				.524	
30. I care about having eye-contact during a communication.				.443	
31. I'm regarded as "social" by those around me.				.436	
Eigenvalue	2,01	1,53	1,72	2,30	6,08
Variance Explained	8,52	7,67	8,31	9,69	9,85

The results of the analysis are presented in Table 2. The factor loadings related to ELSS show that “Motivation” dimension has seven items (1, 2, 3, 4, 5, 6, 7), “Empathy” dimension has four items (8, 9, 10, 11), “Self-regulation” dimension has six items (12, 13, 14, 15, 16, 17) “Emotional awareness” dimension has six items (18, 19, 20, 21, 22, 23) and “Social skills” dimension has eight items (24, 25, 26, 27, 28, 29, 30, 31). The factor loading value, which is the coefficient that explains the relationship between items and factors, should be above the limit value of 0.30 (Field, 2013; Şencan, 2005). Factor structures in ELSS seem to be appropriate since the factor loads for each item are above .40 and there are no contradictory items.

The eigenvalues of the factors range between 6.08 and 1.53, and the total variance explained by five factors is 44%. In the studies of social sciences, a total variance explanation above 40% in factor analysis is regarded as acceptable (Büyüköztürk, 2011; Kline, 1994). As a result of factor analysis, it was seen that emotional literacy indicated a five-factor structure. These factors are named as “Motivation”, “Empathy”, “Self-regulation”, “Emotional Awareness” and “Social Skills”, in line with the characteristics of items and statements in the literature (Antidote, 2003; Killick, 2006; Steiner, 2003; Weare, 2004).

### Confirmatory Factor Analysis (CFA)

In order to strengthen the construct validity of the model which was obtained through EFA, a confirmatory factor analysis was applied on a second data set taken from 399 teachers (N=399). This analysis was carried out by using the scale form consisting of 31 items. The results achieved by analysis of the constituted model via CFA were [ $\chi^2/sd$  (1840.36/424) = 4.34,  $p = .001$ , IFI = .87; CFI = .87; RMSEA = .092] and they were found out of acceptable limits (Çokluk, Şekercioğlu, & Büyüköztürk, 2014). The modification recommendations showed that the fit indices could be improved by performing six modifications on the model. The modifications were made between the items belonging the same dimensions (2 and 4; 18 and 19; 8 and 9; 5 and 6; 27 and 29; 30 and 31). When the items to be modified were checked out, it was seen that they reflect similar situations. The model was retested by adding error covariance among the items.

Table 3. The Fit Parameters of ELSS related to the CFA Model

Fit Parameters	Coefficient
IFI	0.90
NFI	0.89
GFI	0.89
CFI	0.90
RMSEA	0.07
Sd	418
SRMR	0.07
$\chi^2$	1423.34
$\chi^2/sd$	3.4

The fit indices obtained were [ $\chi^2 / sd$  (1423.34/418) = 3.41,  $p = .001$ , CFI = .90; GFI = .89, IFI = .90; RMSEA = .07 (Confidence interval for RMSEA = .073 – .082)] and the model indicated a good fit. Standard values for the indices were: GFI and IFI values should be between 0 and 1. Although there is no agreement in the literature concerning these values, if the value is close to 1, it indicates excellent fit (West, Taylor & Wu, 2012) and values between 0.80 and 0.89 indicate a good fit (Doll, Xia & Tarkzadeh, 1994; Frias & Dixon, 2005). RMSEA value also varies between 0 and 1 (Cole, 1987). If the value is closer to 0, it indicates a good fit and the value between 0.08 and 0.10 gives a moderate fit (Byrne, 2016).  $\chi^2/df$  ratio indicates an excellent fit if it is lower than 2 and the value between 2-5 is a good fit (Jöreskog & Sörbom, 2001). Thus, all standardized fit indices indicated that the model factor structure was confirmed. The range of fit index for CFA is displayed in Table 3.

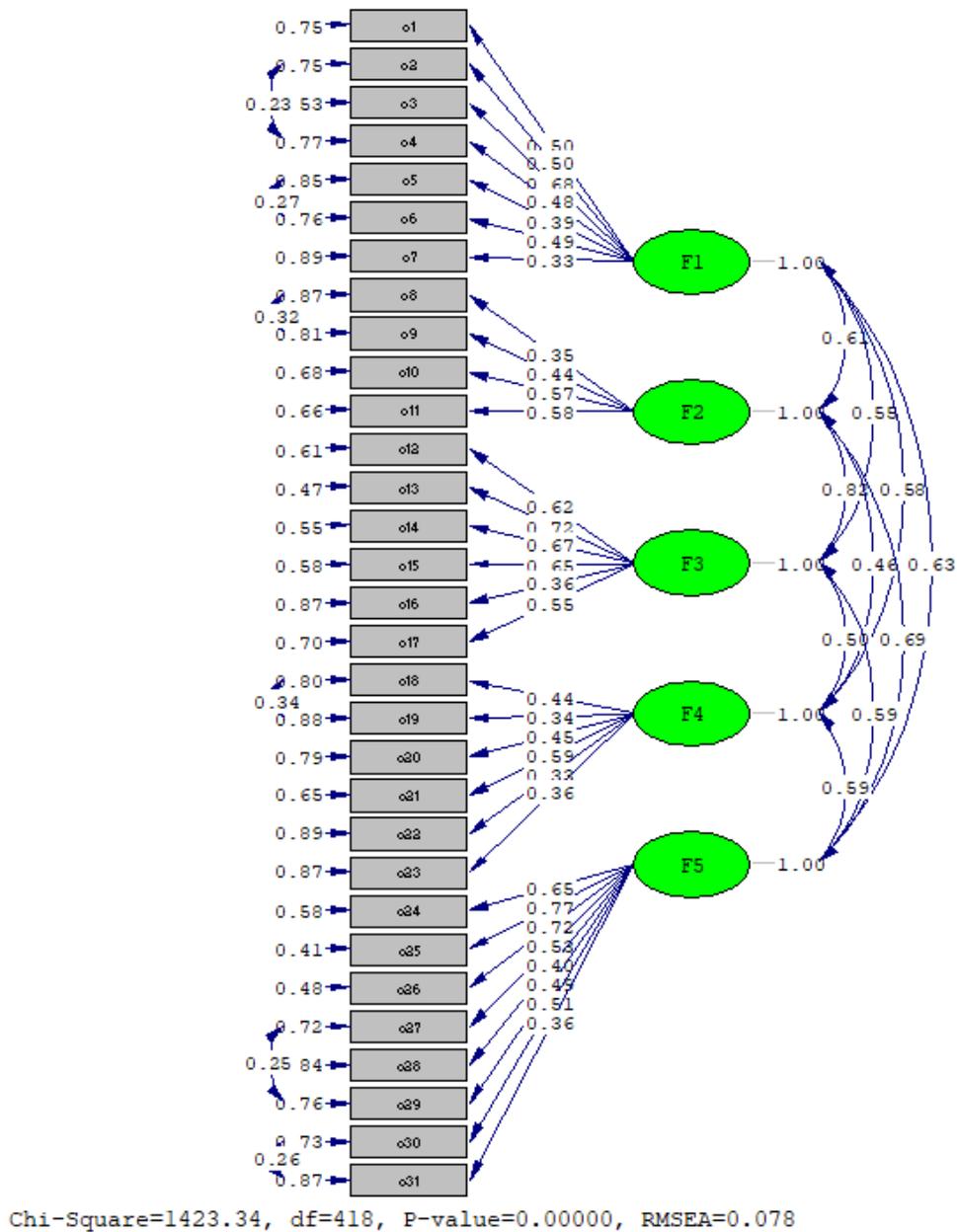


Figure 2. Path Diagram for CFA

The model obtained as a result of the analysis is presented in Figure 2. The item factor loads of ELSS varied between .33 and .77 and all factor loads were significant at the level of .001.

*Sub-Upper scores at 27%, Anti-image correlations and t-test results between item-total correlations*

Another method used to test the validity of the scale is the item-total correlation (item discrimination). Item total correlation scores are used in terms of interpreting how each item contributes to the phenomenon to be explained and how much it distinguishes in terms of the measured property. For item discrimination on Likert scales, generally, techniques based on the mean differences between 27% sub-upper groups and correlation values are used (Şahin & Gülleroğlu, 2013). In this study, both methods were used to determine item discrimination. The scores obtained from the scale were sorted in ascending, and two groups, sub-upper 27%, were formed. As a result of the independent group t-test, it was found that the difference between the lower and upper group means was significant ( $p < .01$ ). Thus, the scale is distinctive in measuring the intended feature.

Table 4. Sub-Upper scores at 27%, Anti-image correlations and t-test results between item-total correlations

Items	Item correlation	Anti-image correlation	t	Items	Item correlation	Anti-image correlation	t
I-1	.300	.756	6,60	I-17	.511	.858	10,4
I-2	.402	.840	8,03	I-18	.348	.841	7,42
I-3	.407	.849	8,47	I-19	.373	.832	7,64
I-4	.375	.848	7,80	I-20	.352	.876	7,56
I-5	.281	.826	6,12	I-21	.477	.840	11,1
I-6	.458	.906	10,3	I-22	.342	.823	7,33
I-7	.330	.824	7,24	I-23	.399	.818	8,94
I-8	.316	.858	7,09	I-24	.347	.818	6,86
I-9	.254	.788	6,34	I-25	.415	.806	8,29
I-10	.310	.790	7,71	I-26	.422	.792	9,60
I-11	.341	.856	7,02	I-27	.462	.822	10,0
I-12	.321	.792	7,64	I-28	.383	.786	7,97
I-13	.452	.872	10,8	I-29	.442	.849	9,16
I-14	.359	.858	7,83	I-30	.352	.833	8,38
I-15	.395	.836	9,49	I-31	.409	.873	8,74
I-16	.300	.770	5,82				

In Table 4, the total correlation values of the items vary between .300 and .511 except for two items, and thus the items are well distinguished. Items with a total correlation of 0.30 and higher are said to distinguish well (Büyükoztürk, 2011). It was observed that the anti-image correlation values of the two items with the item-total correlation of .281 and .254 were above .70 and it was not necessary to subtract them because of their contribution to the scale. The values in the anti-image correlation matrix must be at least 0.50 (Sipahi, Yurtkoru, & Çinko, 2008). As seen in Table 4, the anti-image correlation values of the items range between 0.75 and 0.90, showing that items contribute to the factor structure of the scale at a high rate.

### Reliability

To determine the scale's internal consistency, Cronbach's alpha ( $\alpha$ ) reliability coefficient was calculated. The Cronbach Alpha value takes the variance values of the research items into account and it is used to see if the responses of the participant are consistent within the scale (Bryman, 2012). Values related to reliability analysis are presented in Table 5.

Table 5. Number of Items, Correlations between Factors, Internal Consistency Coefficients for TABS Factors

Factors	Item Number	Cronbach's alpha
1- Motivation	7	.70
2- Empathy	4	.60
3- Self-regulation	6	.70
4- Emotional awareness	6	.71
5- Social skills	8	.77
Total	31	.85

N=373, \*\*p<.01

The Cronbach's alpha ( $\alpha$ ) reliability coefficient for the scale applied to 373 teachers was found as .85. This value shows that the scale is highly reliable (Bryman, 2012, p. 170). The Cronbach Alpha internal consistency coefficients of the scale changed between .60 and .77 while the correlations between the factors were found to change between .20 and .50. Empathy sub scale's Cronbach's coefficient value is lower than the others, this can be interpreted as the number of items in that subscale are insufficient, yet it still appears to be within the lower limit of .60 in the literature (DeVellis, 2012).

## Conclusion and Discussion

This study aimed to determine the validity and reliability of ELSS with 373 teachers for exploratory factor analysis and 399 teachers for confirmatory factor analysis. The study was carried out in seven stages: (i) detailed analysis of the theoretical structure of emotional literacy skills, (ii) creating the item pool, (iii) clarifying the format of the instrument, (iv) the experts' reviews of the items, (v) the validity and reliability analyses of the items (exploratory factor analysis, confirmatory factor analysis, internal consistency, and correlations between the factors.) (vi) applying the scale and (vii) evaluating the items to finalize the scale.

According to the studies on the theoretical structure, emotional literacy requires knowing the taste of feelings, and understanding the feelings in a way that can respond to the wishes and needs of others. Emotional literacy satisfies the need to clearly define and convey our emotions. The skills reflecting the characteristics of an emotionally literate person are frequently repeated in the literature as "motivation, empathy, emotional awareness, self-regulation, and social skills" (Antidote, 2003; Killick, 2006; Steiner, 2003; Weare, 2004). To operationalize these skills, an item pool was constructed and the items, with five-point Likert scale options, were evaluated by experts.

In the next stage of the study, the factor structure of the ELSS was examined and a 5-factor structure was revealed by EFA. Factors named in line with the literature are motivation (7 items), empathy (4 items), self-regulation (6 items), emotional awareness (6 items), and social skills (8 items). When the scale development studies on emotional literacy skills in national literature are examined, it was seen that three factors (self-regulation, emotional awareness, and social skills) identified in this study were also obtained in other studies (Akbağ, Küçüktepe, & Özmercan, 2016; Palancı et al., 2014). This implies that our findings are consistent with the scales developed in the context of Turkish culture samples. In addition to these three factors, it is thought that the motivation and empathy dimensions included in the study will have valuable contributions to emotional literacy skill studies in the sample of teachers. Because, in the context of emotional literacy skills, competent teachers are guides who develop encouraging relationships with their students, support students' strengths and abilities, solve problems in conflict situations, and act in a way to increase intrinsic motivation (Alemdar, 2019). In their study, Perry, Lenny, & Humphrey (2008, p. 35) defines the characteristics of an emotional literate teacher as a person who knows and understands his own feelings, listens to children, can use emotional language, understands that children have emotions and considers these, empathizes and provides a safe and comfortable environment for children to learn better.

Through CFA, statistically significant results and appropriate the Chi-square ( $\chi^2$ ) value relevant to the constructed model were determined [ $\chi^2 = 1423.34$ ,  $sd = 418$ ,  $p < .01$ ]. Depending on the degree of freedom, the low Chi-square ( $\chi^2$ ) value indicates that the scale items are suitable for the data collected (Jöreskog & Sörbom, 2001). In addition, the other fit indices of the model [CFI = .90, GFI = .89, IFI = .90, RMSEA = .07,] indicate a good fit with the proposed model. The coefficient obtained from CFI, IFI, GFI varies between 0 and 1. It is stated in the literature that these values are very sensitive to the sample size and reflect the perfect fit as they approach 1 (Raykov & Marcoulides, 2006, p. 46). The RMSEA value expressing the margin of error among the observed and produced matrices should be less than .10 (Cole, 1987, p. 586). For the RMSEA; the value that equals to or less than 0.05 is a good fit, between 0.05 and 0.08 is a sufficient fit and between 0.08 and 0.10 is a moderate fit (Byrne, 2016, p. 98).

The results of the reliability coefficients of each factor in the ELSS (.70, .60, .70, .71, .77) were statistically acceptable. These values show that ELSS can be used to evaluate teachers' emotional literacy skills (Bryman, 2012; DeVellis, 2012).

Consequently, the constructed theoretical model can be used for teachers, since the factors formed based on the data obtained from teachers for ELSS were confirmed by validity and reliability findings. ELSS serves to measure the desired feature and can be used in adult groups especially in teacher samples.

## Recommendations

- The data to develop emotional literacy skills scale for this study was gathered from teachers as professionals. For further studies, different professional groups of samples can be used to have a valid and reliable tool.
- The study group of this research consists of teachers working in public high schools. In future researches, teachers from different school levels and also from private schools can be sampled.

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