

Social-Emotional Learning Competencies Scale of Secondary School Students

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Received 19 November 2017 • Revised 21 December 2017 • Accepted 21 December 2017

ABSTRACT

In this paper, the social and emotional learning scale developed by Coelho, Sousa and Marchante in the English language aimed at determining the social and emotional learning competencies of students (2015) has been adapted into Turkish. The study also investigates the reliability and validity of the scale. The sample of the research consisted of 534 students - 300 female and 234 male – who were enrolled in secondary science education schools under the Ministry of National Education of Northern Cyprus. The statistical package programmes were used in statistical analysis of the data obtained from the research questionnaire. The normality of the distribution of scores obtained from social and emotional learning competencies was calculated using the Kolmogorov-Smirnov and Shapiro-Wilk tests, which were also used to calculate the QQ plot graph and skewness-kurtosis coefficients of the scores. Accordingly, the Social and Emotional Learning Competencies Coefficient adapted to Turkish consists of 26 items in total, in which there five items in the social awareness sub-dimension, five items in the social isolation sub-dimension, seven items in the self-control sub-dimension, four items in the social anxiety sub-dimension and five items in the establishing relationships sub-dimension.

Keywords: social and emotional learning, scale development, science education schools, secondary science school students

INTRODUCTION

The social and emotional learning approach is the process through which children, young people and adults acquire and develop competencies, behaviours and values. Social and emotional learning improves protective competencies, whereas it decreases risky behaviours. Improvement in learning motivation, academic success, decrease in school dismissal rates, as well as the increase in interest and commitment at school are primary impacts that can be mentioned. Secondary impacts include the increase in cooperation with other individuals, development of problem-solving and social competencies, improvement in healthy life and commitment to the society, decrease in violent tendencies and substance abuse and improvements in family relationships (Gökel & Dağlı, 2017). With emotional learning, children and young people appear as more effectively learners who can develop positive emotions towards other individuals, become more responsible family members and compatible citizens, which subsequently results in an improvement in their academic and social performance. Therefore, it is essential that this approach is integrated into education-teaching programmes. Social and emotional learning is a formation which complements personal feelings, opinions and behaviours with the aim that children and young people can become productive members of the society, can perform essential life tasks successfully, and can meet their social and individual needs (Kabakçı & Korkut, 2008).

Wanless and Domitrovich (2015) defined the social and emotional learning process as the development of social and emotional abilities in children through several strategies such as direct teaching and student-centred applications that improve the analytical, communicative and cooperative competencies of students and create interesting learning environments.

Contribution of this paper to the literature

- Social and Emotional Learning Competencies Scale adapted to Turkish consists of a total of 26 items and helps to determine the social and emotional positivity or negativity among students.
- Social and emotional learning is an approach which attempts to establish a connection between adaptation to school and academic success.
- Constructing social and emotional learning competencies at school increases academic success in students.

Social and emotional learning consists of individuals becoming acquainted with others and managing their emotions, establishing positive relations with others, making responsible decisions in difficult situations and acting constructively and ethically. Social and emotional learning consists of teaching children how they can manage themselves, their relations, studies and behaviours and focuses on the development and application of competencies that form the foundations of life (Norman & Jamieson, 2015).

Embracing the opinions, relations, emotions, and physical and ethical developments of students in an integrated manner without discriminating academic success is critical in terms of ensuring their happiness and generating efficient learning (Aygün & Taşkın, 2016). It is believed that academic success in schools and the learning concept as a social process can be ensured by meeting the social, emotional and physical needs of students. Social and emotional learning is an approach which attempts to establish a connection between adaptation to school, academic success and the students' social lives (Totan, 2014; McCormick, Cappella, O'connor, & McClowry, 2015).

In other words, social and emotional learning is explained as the stage of developing the competencies needed for such vital tasks as the individual defining their own feelings and the feelings of others, being sensitive towards their requests, explaining and managing their feelings, knowing their positive and negative aspects, and establishing and sustaining effective communication (Kocakulah & Ad, 2015). Correspondingly, one of the fundamental targets of education is to equip the student with competencies through which he/she can communicate with his environment and acquire competencies that can be beneficial. This process consists of cognitive, physical and social and emotional development. Social and emotional competencies are defined as developing positive relations and avoiding negative relations; they are also described as knowing oneself, developing empathy, controlling emotions and being able to make ethical and moral decisions. Social and emotional competencies ensure that people enjoy a higher quality of life and are consequently healthier and more content (Jin & Shi, 2017); they also contribute to the individual developing awareness of themselves as well as those of other people. Additionally, the social and emotional learning competencies of an individual are also necessary in that he/she can control themselves, progress in a planned manner when developing interpersonal relations and solve problems (Elcik & Bayındır, 2015).

Children with strong social and emotional learning competencies have the capability to calm themselves when they are angry, establish and sustain friendships, resolve conflicts in a respectful and constructive manner and can make safe and ethical choices (Norman & Jamieson, 2015).

One of the basic targets is to construct social and emotional learning competencies at school in order to increase academic success and provide students with a teaching approach through the guidance of comprehensive programmes (Totan, 2014; McCormick et al., 2015). Studies conducted on social and emotional learning have been increasing in recent years. Thus, it has been witnessed that students are more successful and positive developments are observed in terms of their emotions, opinions and behaviours, whereas a decrease is witnessed in their negative behaviours (Jones & Doolittle, 2017). Programmes constructed based on a social and emotional learning approach prepare students for the complex and globalized world and support them to become psychologically strong individuals who can grow, develop and sustain their abilities (Totan, 2014).

CASEL (the Collaborative for Academic, Social and Emotional Learning), which was founded at Illinois University in 1993 by Eileen R. Growald and Daniel Goleman, conducted the first studies on social and emotional learning in order to examine the programmes implemented in the academic, social and emotional learning fields in the United States in an evidence-based manner and to create a new approach (Totan, 2014). The fundamental goal of CASEL is to create, test, report and propagate theoretical foundations and practices for social and emotional learning and to make them available for stakeholders in the educational system, such as educationists, students and researchers outside schools. CASEL is explained as a process which examines social learning under five sub-dimensions, namely self-awareness, self-management, social awareness, relationship competencies and effective decision-making and includes the development of children's social and emotional abilities (Aygün & Taşkın, 2016). Therefore, several scale studies have been conducted on social-emotional learning competencies in recent years.

Scales on Social and Emotional Learning Competencies

In this section of the paper, scale studies conducted on social-emotional learning competencies are discussed, including studies that have been conducted in Northern Cyprus as well as around the world.

Coryn, Spybrook, Evergreen and Blinkiewicz (2009) based their studies on determining the reliability and validity of a social-emotional learning scale consisting of 20 items, which they developed in order to evaluate the social-emotional learning needs of elementary school students. It was determined that the scale that consisted of three factors, namely task articulation, peer relations and self-regulation, was both convergent in internal consistency and had discriminatory validity.

Another study on this subject was conducted by Kabakçı and Owen (2010). The objective of this research was to prepare a scale which could be used in evaluating the social emotional learning competencies of elementary school students. Within the scope of their validity studies, the scale was reduced to four factors through exploratory factor analysis and a structure with four factors was tested with confirmatory factor analysis. Resultantly, it was determined that the tested model had good conformity indexes. A significant relationship was detected with other scales in scale-related validity and item analysis was conducted in order to ensure the reliability of the scale. The Cronbach's alpha and test-retest reliability coefficients were calculated and, based on the reliability and validity studies, it was determined that the scale had high employability.

Zhou and Ee (2012) developed a scale in order to evaluate the social and emotional development of children and adolescents as well as to ensure suitable intervention for the purposes of child and adult development. A pool consisting of 25 items was created for the Social Emotional Competency Survey, which consisted of sub-dimensions that included personal sensitiveness, personal awareness, personal management, relationship management and responsible decision-making. The results of the questionnaire applied to 444 fourth grade students showed that the answers were suitable for confirmatory factor analyses. Subsequently, it was demonstrated that the scale, which was repeated with 356 students, had favourable internal consistency. Significant correlations were determined between five sub-dimensions; thus, it was proved that the scale was reliable and valid.

Arslan and Akın (2013) examined the validity and reliability of the Turkish version of the social emotional learning scale developed by Coryn et al. and demonstrated that the Turkish version of the social emotional learning scale was a reliable and valid measuring instrument.

The study conducted by Ji, Flay and Dubois (2013) aimed to determine the social-emotional competencies and characteristics of elementary school children by developing a Social-Emotional and Character Development Scale. It was determined that confirmatory factor analysis showed internal conformity, consistency and reliability.

Another study was conducted by Totan and Kabasakal (2013) which examined the reliability and validity of the Turkish version of the Social-Emotional Learning Skill at secondary school level. The study was conducted using data collected from three different groups. The first stage of the study consisted of an evaluation of the similarity between the unique form of the scale and its translated version. As a result of this stage, a significant relationship was found between the items in both versions of the scale. The second stage showed that the Turkish version was reliable and valid for secondary science school students, that the scale protected its original form version and was significantly related to a similar scale. The third stage consisted of examining the test-retest reliability of the scale in two-week intervals and displayed that the sub-dimensions and the total of the scale showed stability. Accordingly, the researchers proved that the scale was a powerful measurement instrument that could be utilised for evaluating task awareness, peer relations and self-regulation as social and emotional learning needs.

Another example of a study conducted in this area was conducted by Kocakülah and Ad (2015) with the purpose of determining whether the social emotional learning competencies scale developed by Kabakçı and Owen (2010) is applicable for university students. The original form of the scale was preserved and applied to 514 teacher candidates at a faculty of education, as a result of which it was demonstrated that there was harmony between the model and the observed data in terms of conformity index values and that the proposed model had conformity at an acceptable level.

In this paper, effort attention was paid to determine the validity and reliability of the social emotional learning competencies scale so that it can be used for evaluating the competencies of 6th to 8th grade students as there is currently a lack of such a reliable and valid scale developed for social and emotional learning competencies in Northern Cyprus.

METHOD

In this study, the Social and Emotional Learning Scale developed by Coelho, Sousa and Marchante (2015) in the English language in order to determine the social and emotional learning competencies of students was adapted to Turkish. In the study, the reliability and validity of the scale was also examined.

Table 1. Distribution of Students According to Their Introductory Characteristics

	Number (n)	Percentage (%)
Sex		
Female	300	56.18
Male	234	43.82
Age		
11 Years	46	8.61
12 Years	197	36.89
13 Years	153	28.65
14 Years	138	25.84
Grade		
6 th Grade	203	38.01
7 th Grade	148	27.72
8 th Grade	183	34.27
School		
Private school	103	19.29
Public school	431	80.71

Population & Sample

The population of the study consisted of students at private and public secondary science schools under the Secondary Education Office of the Ministry of National Education of Northern Cyprus in the 2016-2017 academic year.

The research population consisted of 10,719 students, 9,252 of whom were at public schools and 1,467 of whom were at private schools, under the Secondary Education Office of Ministry of National Education of Northern Cyprus. As the entire universe could not be reached, the universe was stratified based on regions and a sample was chosen based on the stratified sampling method in order to represent the research universe. The sufficient number of samples that would represent the research sample was calculated by sampling with the known universe method at a 95% reliability level and with a 5% sampling error.

Number of Samples;

N: number of people in the study universe

n: number of individuals who would be included in the sample

p: the occurrence frequency of the examined case (realisation probability)

q: the non-occurrence frequency of the examined case (non-realisation probability)

t: theoretical value found according to t test table at a certain significance level

d: sampling error accepted based on the occurrence frequency of the case.

$$n = \frac{N * t^2 * p * q}{(N - 1)d^2 + t^2 * p * q} \quad n = \frac{10719 * (1.96)^2 * 0.50 * 0.50}{(10718)(0.05)^2 + (1.96)^2 * 0.50 * 0.50} = 371$$

As can be seen above, with 95% reliability level and 5% sampling error, the sufficient sample size of a universe of 10,719 people was calculated to be 371. In order to reduce the sampling error, the researcher interviewed 534 students and decreased the sampling error to 4 percent.

Table 1 gives the distribution of students who participated in the study according to their introductory characteristics.

An examination of **Table 1** shows that 56.18% of the students included in the study were females and 43.82% were males, while 36.89% were 12 years old, 28.65% were 13 years old and 25.84% were 14 years old. It was also discovered that 38.01% of the students were in the 6th Grade, 27.72% were in the 7th Grade and 34.27% were in the 8th grade. Additionally, 19.29% of the students were attending private school and 80.71% were attending public school.

Data Collection Tool

The data collection tool used in the study was a questionnaire which consisted of two sections, namely introductory characteristics and the Social and Emotional Learning Competencies Scale.

In the introductory characteristics section, which constituted the first part of the questionnaire, questions were asked to determine the personal features of students covered by the study, such as gender, age, type of school, and

grade, as well as the education status, profession and income level of parents, and the daily television and Internet usage periods of students.

Social and Emotional Learning Competencies Scale

The Social and Emotional Learning Competencies Scale developed by Coelho et al. (2015) in the English language was used in order to determine the social and emotional learning competencies of the students covered by the study. The scale was adapted into the Turkish language by the researcher.

The reliability and validity study conducted by Coelho et al. (2015) determined that the scale consisting of 41 items had 5 sub-dimensions, namely social awareness, social isolation, self-control, social anxiety and establishing relationships. As a result of the internal consistency test conducted for the original scale, the Cronbach's alpha value for the entire scale was found to be 0.87.

The answers given to the scale were scored as "strongly disagree = 1 point", "disagree = 2 points", "don't know = 3 points", "agree = 4 points" and "strongly agree = 5 points". Furthermore, the negative items in the scale were scored as "strongly disagree = 5 points", "disagree = 4 points", "don't know = 3 points", "agree = 2 points" and "strongly agree = 1 point".

Collection of Data

The scale was used in collecting the research data and the application was personally conducted by the researcher. The Social and Emotional Competencies Evaluation Scale used in the article titled "Development and Validation of the Social and Emotional Competencies Evaluation Questionnaire" which was developed and published in 2015 by Vitor Alexandre Coelho, Vanda Sousa and Marta Marchante consists of five sub-dimensions, namely "social awareness", "social isolation", "personal control", "social anxiety" and "relationship skills", and 41 items. E-mail contact was established with the owner of the scale, Vitor Alexandre Coelho, in order to obtain the necessary permissions to use the Social-Emotional Learning Competencies Scale.

A request was submitted to the Secondary Education Office of the Northern Cyprus Ministry of National Education in order to apply the prepared scale in private and public schools and written permission was subsequently obtained. The questionnaire was administered during the spring semester of the 2016-2017 academic year, at which time the secondary science education institutions were visited by the researcher, the school administrators were briefed on the research in detail and permission documents were presented.

During the application of the Social and Emotional Learning Competencies Scale, the students were informed by the researcher and it was explained that there were no true or false answers to the questions in the questionnaire to ensure that they would provide sincere answers, that they did not have to provide their names and surnames and that the research results would only be used for scientific purposes.

Evaluation of Data

The Statistical Package for Social Sciences (SPSS) 21.0 and AMOS 21 data analysis package programmes were used in the research for the statistical analysis of the data obtained through the questionnaire. The normal distribution of scores obtained from social and emotional learning competencies was calculated using the Kolmogorov-Smirnov and Shapiro-Wilk tests, which were also used to calculate the QQ plot graph and skewness-kurtosis coefficients of the scores. Accordingly, it was calculated that the scale scores of the students were normally distributed.

FINDINGS

In this section, the reliability and validity findings of the scale used in the research as well as its Turkish adaptation are provided.

Validity

The opinions of experts in elementary education, education psychology, measuring and evaluation, programme development, education and teaching sociology were consulted in regard to whether the chosen sample was suitable for the student levels and the validity.

Table 2. Goodness of Fit Values of Social and Emotional Learning Competencies Scale

Goodness of Fit Indexes	Calculated values	Goodness
χ^2/sd (chi-square / degree of freedom)	1.90	Perfect
Root mean square error of approximation (RMSEA)	0.41	Perfect
Normalized Fit Index (NFI)	0.82	Badness of fit
Comparative Fit Index (CFI)	0.91	Acceptable
Goodness of Fit Index (GFI)	0.93	Acceptable

Results of Correlation Analysis of the English and Turkish Versions of the Social-Emotional Learning Scale

At the stage of translating the scale from English to Turkish, the final form was established by based on the opinions of three experts (English education experts who were native speakers of Turkish). In order to ensure the reliability and validity of the Turkish scale in terms of language, 22 students from the Department of English Language and Literature at Near East University Faculty of Science and Letters were reached. The desired result was obtained when the data of the scale given in Turkish and English languages were analysed in one-week intervals. In order to determine the reliability and validity of the scale which was adapted into Turkish, the scale was distributed to 6th, 7th and 8th grade students in secondary science schools under the Northern Cyprus Ministry of National Education in the Nicosia, Famagusta, Kyrenia, Güzelyurt and İskele districts. The data were collected between March and May. Both the English and Turkish versions of the scale were administered to bilingual students. At the end of the application, the correlations between scores obtained from Turkish and English forms were examined and it was determined that there was a positive, strong and statistically significant relation based on the correlation coefficient ($r=0.634$).

The structure validity of the Turkish adaptation of the Social and Emotional Learning Competencies Scale consists of factor analysis which is employed in order to test the conformity of the factors determined by exploratory factor analysis and confirmatory factor analysis to the factor structures determined with the hypothesis. Exploratory factor analysis is used in order to test the high level of relation between variable groups and factors, whereas CFA was used in order to determine whether the variable groups contributing to k number of factors are represented by these factors adequately (Aytaç & Öngen, 2012).

The results of the conducted confirmatory factor analysis are presented in **Table 3** and **Figure 1** and 15 items from the original form of the Social-Emotional Learning Competencies Scale were omitted in the Turkish form in the development of the final form.

An examination of the χ^2/sd given in **Table 2** shows that the calculated value is 1.90. According to Klein (2005), a χ^2/sd value under 3 shows a perfect fit. Accordingly, the value of the model has a perfect fit.

The root mean square error of approximation (RMSEA) of the Social and Emotional Learning Competencies Scale was found to be 0.41. An RMSEA value below 0.05 shows that the model has perfect fit.

It was found that the normalized fit index (NFI) is 0.82. NFI examines the harmony between the assumed model and the fundamental (independent) model. According to Meydan and Şeşen (2011), the critical value determined for NFI index should be between 0.90 and 1.00, which shows goodness of fit for NFI. In the created model, NFI value was calculated as 0.82, indicating that there is badness of fit for the NFI value.

The calculated value of the Comparative Fit Index (CFI) is 0.91. The limit value determined for CFI is 0.90 and values above this level indicate acceptable fit (Tabachnick & Fidell, 2001). It is observed that the created model has acceptable fitness in terms of CFI.

The fact that the goodness of fit index (GFI) is above 0.90 shows that there is good fit in regard to the model (Ayyıldız & Cengiz, 2006). It was determined that the GFI value of the Social and Emotional Learning Competencies Scale was 0.93, indicating acceptable fit.

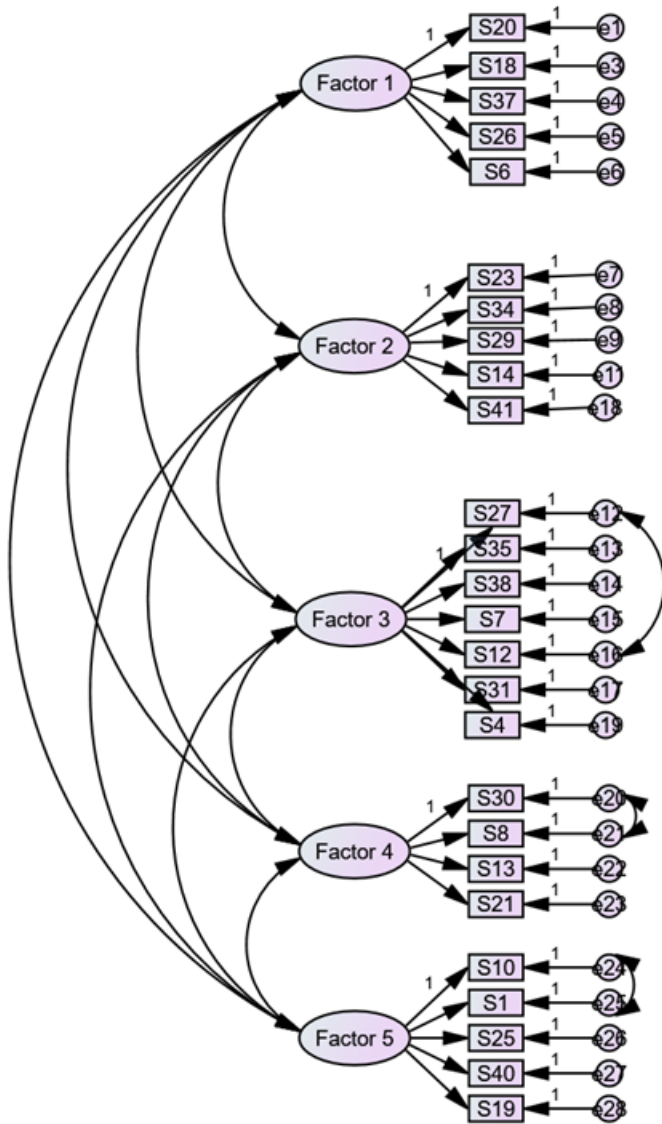


Figure 1. Path Diagram of the Social and Emotional Learning Competencies Scale

Table 3. Cronbach’s Alpha Results of Social and Emotional Learning Competencies Scale

Sub-Dimensions	Cronbach Alfa
Social Awareness	0.71
Social Isolation	0.73
Self-Control	0.75
Social Anxiety	0.73
Relationship Skills	0.70
Total of Scale	0.81

Reliability of the Scale

Among the internal consistency tests, Cronbach’s alpha and Split-half tests were used to assess the reliability of the Turkish version of the Social and Emotional Learning Competencies Scale. Additionally, the item-total correlations of the scale were examined.

According to the conducted Cronbach’s alpha test results, it was found that the Cronbach’s alpha coefficient for the entire scale was 0.81. When the Cronbach’s alpha coefficients of the sub-dimensions in the scale were examined, it was determined that the coefficients for social awareness, social isolation, self-control, social anxiety and relationship sub-dimensions were 0.71, 0.73, 0.75, 0.73 and 0.70, respectively.

Table 4. Split-Half Test Results of the Social and Emotional Learning Competencies Scale

Split-Half test	Coefficients
First half Cronbach's Alfa	0.75
Second half Cronbach's Alfa	0.63
Correlation between halves	0.62
Spearman-Brown Coefficient	0.76
Guttman Split-Half Coefficient	0.76

Table 5. Item-Total Correlation of the Social and Emotional Learning Competencies Scale

	Item-total correlation coefficient
20. I help others with their problems.	0.43*
18. I support others.	0.29*
37. I am kind to those who have problems.	0.38*
26. I am concerned that people with get left behind	0.45*
6. I help those rejected by the group.	0.34*
23. I isolate myself.	0.37*
34. I with draw and don't speak.	0.41*
29. I avoid contact.	0.47*
14. I lose track of what is happening	0.32*
41. I feel awkward when talking to the opposite sex.	0.31*
27. I wait for my turn.	0.43*
35. I respect others.	0.51*
38. I correct others sensitively	0.33*
7. I am nice.	0.38*
12. I wait calmly for my turn.	0.31*
31. I let others work.	0.44*
4. I respect those who are older.	0.33*
30. I often feel ashamed.	0.30*
8. I am shy.	0.31*
13. I am nervous when I need to talk.	0.21*
21. When facing new situations, I feel afraid.	0.33*
10. I organize groups.	0.34*
1. I am chosen as the leader.	0.33*
25. I like to coordinate.	0.42*
40. I usually take the initiative.	0.35*
19. I like to organize new activities.	0.42*

* $p < 0.05$

An examination of the Split Half tests performed in order to determine the internal consistency of the scale reveals that the Spearman-Brown Coefficient and the Guttman Split-Half Coefficient for both halves were 0.76, indicating high correlation.

An examination of the item-total correlation given in **Table 5** shows that the correlation coefficients varied between 0.29 and 0.51, indicating a significant correlation between the items and the total score.

CONCLUSION

This study examined the adaptation to Turkish language of the Social and Emotional Competencies Evaluation Scale used in the article titled "Development and Validation of the Social and Emotional Competencies Evaluation Questionnaire", which was developed and published in 2015 by Vitor Alexandre Coelho, Vanda Sousa and Marta Marchante and found that the Cronbach's alpha coefficient for the entire scale was 0.81. An examination of the Cronbach's alpha coefficient for the sub-dimensions of the scale showed that the coefficients for social awareness, social isolation, self-control, social anxiety and relationship sub-dimensions were 0.71, 0.73, 0.75, 0.73 and 0.70, respectively.

An examination of the Split-Half tests performed in order to determine the internal consistency of the scale revealed that the Spearman-Brown Coefficient and the Guttman Split-Half Coefficient for both halves were 0.76, indicating high correlation.

An examination of the item-total correlation given in **Table 5** shows that the correlation coefficients varied between 0.29 and 0.51, indicating a significant correlation between the items and the total score.

In the Turkish adaptation of the scale, the following items were omitted: “11. I feel worried about the problems of others”, “2. I am interested in what happens to others” and “32. I defend the rights of others” in the social awareness sub-dimension; “5. I prefer desolate places”, “39. I feel exhausted”, “9. I adapt to a group only when I have difficulty” and “17. I stay away from crowds” items in the social isolation sub-dimension; “15. I accept the decision of the majority” and “22. I talk and discuss in a calm manner” items in the self-control sub-dimension; “24. I feel ashamed when I am warned/noticed by others”, “3. I feel scared when I do not know something” and “36. I cry very easily” in the social anxiety sub-dimension; and the items “16. I am a popular person”, “33. I am chosen as a referee”, “and “28. Others imitate me” in the relationship sub-dimension.

Accordingly, the Social and Emotional Learning Competencies Scale adapted to Turkish consists of a total of 26 items. There are five items in the social awareness sub-dimension, five items in the social isolation sub-dimension, seven items in the self-control sub-dimension, four items in the social anxiety sub-dimension, and five items in the establishing relationship sub-dimension.

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