



| Research Article / Araştırma Makalesi |

A Scale Development Study: Social Emotional Learning Scale-Young Adult Form (SELS-YF)

Sosyal Duygusal Öğrenme Ölçeği-Genç Yetişkin Formu (SDÖÖ-GF) Geliştirme Çalışması

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Keywords

1. social emotional learning
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Abstract

Purpose: Social emotional learning (SEL) is the process of developing the attitudes, values and skills necessary for individuals to gain social emotional competence. SEL includes many skills such as setting goals and achieving them, making responsible decisions, establishing healthy relationships with others, collaborating with others, recognizing feelings, and being aware of needs etc., which individuals need these skills throughout their lives. In this study, it was aimed to develop the Social Emotional Learning Scale-Young Adult Form (SELS-YF), which aims to measure the SEL skills of university students.

Design/Methodology/Approach: Participants of the study included university students who were between 18-24 years old, recruited from various public and private universities in Turkey. The scale was applied to 530 undergraduate students (352 female and 178 male). The validity of the SELS-YF was evaluated through exploratory and confirmatory factor analysis. The construct and criterion validities of the scale were also tested. Cronbach's alpha and McDonald's Omega coefficients were calculated for the internal consistency reliability of the scale.

Findings: The results indicated that the SELS-YF consist of 20 items, including five dimensions, namely Self-Awareness, Academic Self-Regulation, Social Awareness, Responsible Decision Making, and Relationship Skills. The scale had positive correlation with well-being, indicating criterion validity. The internal consistency of the scale was adequate for the total scale (Cronbach's alpha =.86) and ranged from .63 to .77 for each dimension. In addition, McDonald's Omega ($\omega=.86$) coefficient for the total of the scale was calculated.

Highlights: The SELS-YF is a valid and reliable instrument to measure SEL skills of undergraduate students within Turkish culture.

Öz

Çalışmanın amacı: Sosyal duygusal öğrenme (SDÖ), bireylerde sosyal duygusal açıdan yetkinlik kazanmaları için gerekli tutumların, değerlerin ve becerileri geliştirme sürecidir. Bireyler yaşamları boyunca kendine hedefler koyma ve bunları uygulama, sorumlu kararlar verme, başkalarıyla sağlıklı ilişkiler kurabilme, başkalarıyla işbirliği içinde çalışma, duygularını tanıma ve fark etme, ihtiyaçlarının farkında olma vb. pek çok SDÖ becerilerine ihtiyaç duyabilmektedir. Bu nedenle bu becerilerin desteklenmesine yönelik çabalara temel oluşturması açısından SDÖ becerilerini değerlendirmeye yönelik ölçme araçlarına ihtiyaç vardır. Bu ihtiyaçtan hareketle bu çalışmada, üniversite öğrencilerinin SDÖ becerilerini ölçmek için Sosyal Duygusal Öğrenme Ölçeği-Genç Yetişkin Formu'nun (SDÖÖ-GF) geliştirilmesi amaçlanmıştır.

Materyal ve Yöntem: Araştırmanın katılımcıları Türkiye'nin çeşitli devlet ve özel üniversitelerinde öğrenimine devam eden 18-24 yaş arası üniversite öğrencileridir. Çalışmaya 352'si kadın 178'i erkek olmak üzere toplamda 530 üniversite öğrencisi katılmıştır. Ölçeğin geçerliliğini hesaplamak amacıyla açımlayıcı ve doğrulayıcı faktör analizi yapılmış, güvenilirliği için Cronbach alfa ve McDonald Omega katsayıları hesaplanmıştır. Ayrıca ölçekte yer alan her bir faktörün iç tutarlılık anlamında güvenilirliği test edilmiştir.

Bulgular: Ölçeğin geçerlik çalışmaları kapsamında kapsam geçerliği için uzman görüşü alınmış, yapı geçerliği için açımlayıcı faktör analizi (AFA) kullanılarak beş faktörlü yapıya ulaşılmıştır. Ardında doğrulayıcı faktör analizi (DFA) uygulanarak AFA sonucu ulaşılan yapı doğrulanmıştır. Ayrıca ölçeğin ölçüt bağıntılı geçerliği incelenmiştir. Ölçeğin güvenilirliği için madde analizi yapılmış, ölçeğin toplamına (Alfa=.86) ve her bir boyuta ilişkin Cronbach Alfa güvenilirlik katsayısı hesaplanmıştır. Ayrıca ölçeğin toplamına ilişkin McDonald Omega ($\omega=.86$) katsayısı hesaplanmıştır.

Önemli Vurgular: Çalışma sonucunda toplam 20 madde ve beş faktörden oluşan SDÖÖ-GF'nin Türkiye kültüründe geçerli ve güvenilir bir ölçme aracı olduğu görülmüştür.

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INTRODUCTION

Individuals need many skills throughout their lives such as recognizing their strengths and limitations, communicating, regulating their emotions, resolving conflict, setting goals and making plans suitable for their goals, understanding others, managing stress, respecting differences, etc. These social and emotional skills, which are as old as the history of humanity and are an inevitable necessity of living together, have been at the center of efforts to support learning, with the recognition of their effects on cognitive processes as well as their contributions to personal and interpersonal processes and seeing that these skills can be learned. In this context, social and emotional learning (SEL) is the development process of skills and competencies including recognizing and managing one's emotions, setting and reaching positive goals, respecting the perspectives of others, establishing and maintaining positive relationships, making responsible decisions, and dealing with interpersonal problems constructively (Elias et al., 1997). In other words, it is the process of developing the skills, attitudes and values necessary to gain social and emotional competence.

The Collaborative for Academic, Social, and Emotional Learning (CASEL, 2015) suggested a model that addresses SEL skills under five dimensions forward. According to this model, there are five competencies affecting individuals throughout their lives, hence they should have them, including (1) self-awareness, (2) self-management, (3) social awareness, (4) responsible decision making, and (5) relationship skills. "Self-awareness" includes accurately assessing one's strengths and limitations and having a sense of self-confidence and optimism built on good basis (Denham & Brown, 2010). Under this dimension, there are skills such as recognizing and defining one's own emotions, having an understanding of the situations and conditions that reveal their emotions, being aware of their personal needs and values, perceiving oneself correctly, believing in one's own competence and having a spirituality (Kress & Elias, 2006). Having self-awareness indicates a metacognition, including cognitive capacity (Zhou & Ee, 2012). "Self-management" is the ability to effectively regulate one's feelings, thoughts and behaviors in different situations (CASEL, 2015; Elias et al., 2008). This dimension includes skills such as coping with stress, anxiety, anger and depression, controlling impulses, harmful behaviors to self and others, having an internal motivation, activating hope and optimism, and exhibiting ideal performance (Eliaset al., 2007; Zins et al., 2007). It has been stated that students with weak self-management skills have difficulties in academic success and performance and in interpersonal relations (Weissberg & Elias, 1993). "Social awareness" includes the ability to understand and empathize with others' perspectives, and to appreciate the similarities and differences of others (Denham & Brown, 2010). It includes skills such as taking perspective, understanding the feelings and opinions of others, and altruism (Fret et al., 2000; Kress & Elias, 2006). "Responsible decision making" is the ability to make constructive and respectful choices about personal behavior and social interactions within the framework of ethical behavior, social norms, self and well-being of others, and realistically assess the consequences of various actions (CASEL, 2015; Denham & Brown, 2010). It includes skills such as clearly defining and analyzing situations and problems, evaluating results, solving problems, making effective decisions, approaching difficulties and obstacles in a constructive way, self-evaluation and reflective thinking, and taking personal and ethical responsibilities (Kress & Elias, 2006). In this context, students with these skills are expected to comply with school rules, avoid destructive behaviors, and exhibit attitudes that support well-being at school (Denham & Brown, 2010). Lastly, "relationship skills" are the ability to establish and maintain meaningful relationships with different people and groups (Kress & Elias, 2006). These skills include managing emotions in relationships, harmonizing different emotions and perspectives, being sensitive to social and emotional cues, communicating clearly, expressing emotions effectively, communicating with others in social situations, establishing relationships, teamwork, trustworthiness, leadership and persuasion, exhibiting behaviors, managing conflicts, reconciling, saying no, asking for and offering help (Kress & Elias, 2006).

SEL skills, which individuals need to deal with increasingly complex situations starting from childhood in areas such as physical and mental health, academic development, social relations, and citizenship, develop, elaborate and integrate with life over time (Zins & Elias, 2006). Karacan Ozdemir and Bacanli (2020) stated that SEL programs might foster career development of individuals, hence could contribute to Positive Youth Development (PYD). According to Damon (2004), individuals may encounter many problems such as emotional disorders, economic inadequacies, low motivation and academic failure, psychosocial crises, alcohol, drug or cigarette use during the growth process. At this point, PYD focuses on developing the individual's strengths, creating interesting and supportive contexts, and providing opportunities for a sincere constructive resource instead of focusing on the problems or deficiencies of the individual from childhood to adulthood (Damon, 2004; Taylor et al., 2017). In this context, it can be said that SEL skills and PGG approach intersect in many aspects such as purpose, content, effects, and results. The focus of both approaches is positive development; both see development as a process that includes various opportunities, rather than focusing on a problem and adopting a problem-oriented perspective (Ross & Tolan, 2018). Although some researchers stated that PYD based on social cognitive theories and social learning approaches and SEL derives from emotional intelligence, the first one aims to contribute to society (Lerner et al., 2003) and improve the harmony between individuals and environments, the second aims to social and academic results and for this reason they may differ in these aspects (Ross & Tolan, 2018; Tolan et al., 2016); it can be said that SEL skills development programs aim at positive youth development by targeting the prevention of negative consequences for school and life (Merrell et al., 2008). When the relevant literature is examined, it has been seen that there is a significant decrease in the problems such as behavioral problems and emotional distress of the students who participated in the skills training programs within the framework of the SEL model and that their positive attitudes towards themselves, others and the school have improved (Taylor et al., 2017). In addition, this model has shown positive results in many areas such as improving peer relationships (Sawyer et al., 1997), mental health, adjustment, and communication (Brackett et al., 2012; Ladd et al., 1999;

et al., 2007) as well as decreasing emotional stress (Durlak et al., 2011), depressive symptoms (Horowitz & Garber, 2006), aggressive and criminal behaviors (Wilson & Lipsey, 2007), substance use and other risky behaviors (Elias et al., 2003; Hawkins et al., 2008; Taylor et al., 2017). According to the results of a meta-analysis study (Durlak et al., 2011), SEL skills improved individuals' attitudes towards themselves and others, social behaviors in a positive way, increased their academic achievement, reduced behavioral problems and emotional distress levels. Elias and Zins (2006) stated that SEL skills are helpful in preventing students from certain problematic behaviors such as substance use, violence, bullying, and low academic achievement. In research studies conducted in Turkey, there were positive relations of SEL skills with self-esteem (Merter, 2013), emotional intelligence (İşeri, 2016), lifelong learning (Akcaalan, 2016), life satisfaction and hope (Kabakçı & Totan, 2013), family, friend support and hope level (Candan & Yalçın, 2018), perceived social support level (Elcik, 2015) and parental attitudes (Öztürk, 2017). Based on these studies, it is seen that as SEL includes many skills, it makes positive contributions to the developments in different areas of life. These findings point to the necessity and importance of developing and implementing programs to support SEL skills at every developmental level. At this point, it is necessary to evaluate the SEL skills of individuals in order to carry out any implementations to respond to the needs of individuals and to test the effectiveness of these implementations at the same time.

In the relevant literature, it can be seen that there are many measurement tools that can be used to evaluate SEL skills (CASEL, 2010; Denham & Brown, 2010; Denham et al., 2010; Denham et al., 2009; Haggert et al., 2011; Humphrey et al., 2011; Ee & Zhou, 2012). In Turkey, there are some inventories, too such as Assessment of Children's Emotional Skills Test (Shultz & Izard, 1998; Durmuşoğlu Saltalı et al., 2009), Social and Emotional Learning Skills Scale (Kabakçı & Korkut Owen, 2010; Kocakulah & Kirtak Ad, 2015), Social-Emotional Learning Scale (Coryn et al., 2009; Totan & Kabasakal, 2012), Social and Emotional Learning Scale (Totan, 2018), Social-Emotional Learning Skill Scale (Esen Aygün & Sahin Taskin, 2017) and Social Skills Scale (Kocayörük, 2000). In addition, there are many tools to evaluate some specific SEL skills such as the Conflict Resolution Behavior Scale (Öner Koruklu, 1998), the Self-Esteem Scale (Bogenç, 1998), the Scale of Coping Strategies Used in Stress Experiences (Aysan, 1988). Moreover, research studies are continuing on developing some measurements with the participation of many countries from around the world (Bacanli et al., 2019; OECD, 2020). It has been pointed out that many techniques such as observations, structured interviews, and checklists can be used in addition to standard assessment methods in assessing SEL skills (Denham & Brown, 2010). However, in Turkey, the measurements have been developed or adapted to the Turkish culture with primary (Baydan & Bilge, 2010; Esen-Aygun & Sahin-Taskin, 2017), secondary (Kabakçı & Korkut-Owen; 2010; Totan & Kabasakal, 2013; Totan, 2018) and high school (Totan, 2018) students. At this point, considering the fact that the developmental characteristics and needs of individuals at different developmental stages will be different, it is emphasized that the social emotional competencies that are aimed to be developed should be determined in this direction (Denham & Brown, 2010). On the other hand, it is recommended to consider that there may be individual differences even within the same developmental level, and that SEL skills may change within the framework of the individual's conditions and interactions with the environment (Mashburn & Pianta, 2006). In this case, it can be said that university life is an important period when social and emotional changes are experienced, academic expectations differ, and social and emotional skills are needed and the career planning process is at the forefront. In addition, it is emphasized that university students, who will be the future workforce, need to have life and career skills, which are called as 21st century competencies and overlap with most SEL skills such as communication, cooperation, self-management, social and intercultural interaction, in order to find a place in the job market and be successful (Mariani et al., 2016; World Economic Forum, 2020). At this point, it is important to evaluate SEL skills in order to support the social, emotional, academic and mental development of university students as well as their career development. However, when the relevant national and international literature is examined, no scale has been found, which has been developed for measuring the SEL skills of university students, based on the CASEL's framework (2005; 2015). Although it is seen that Kocakulah and Kirtak Ad (2015) tested validity and reliability of the scale developed to assess SEL skills of primary school students by Kabakçı and Korkut Owen (2010) with a sample including university students, this scale does not include the five dimensions recommended by CASEL. Considering that SEL skills have dynamic relationships built on each other's strengths and shortcomings (Denham & Brown, 2010) and that these five interrelated skills, including cognitive, emotional and behavioral competencies, should be developed together in programs to develop and support these skills (CASEL, 2005), it is seen that such a measurement instrument is needed. Therefore, in this study, it is aimed to develop a measurement tool to assess SEL skills of university students within the framework of the five-dimensional SEL model proposed by the CASEL (2005; 2012; 2015).

METHOD

This research is a scale development study. Hence, in addition to testing the validity and reliability of the scale developed in this study, the relationships between social emotional learning skills and mental well-being was examined.

Participants

The participants of the research consisted of university students between the ages of 18-24 who continue their education at various private and state universities in Turkey. The Exploratory factor analysis (EFA) was conducted on data collected from 310 university students, including 207 females (66.8%) and 103 males (33.2%). Data on the confirmatory factor analysis (CFA) study were collected from 220 participants, consisting of 145 women (65.9%) and 75 men (34.1%). Thus, 530 university students, including 352 female (66.4%) and 178 male (33.6%), participated in the research. The participants included 127 (24%) freshmen,

186 (35.1%) sophomores, 116 (21.9%) juniors, and 93 (17.5%) seniors. The mean age of the participants was 20.32 ($M=20.32$, $SD=1.36$).

Instruments

Demographic Form

This form consists of closed-ended questions to collect information of the participants about gender, age, university type, grade level.

Social Emotional Learning Scale-Young Adult Form (SELS-YF)

In this study, Social Emotional Learning Scale-Young Adult Form was developed in order to assess social emotional learning skills of university students. The SELS-YF is a five-point Likert-type scale, consisting of 20 items. The scale consists of five basic dimensions, namely self-awareness, academic self-regulation, social awareness, relationship skills and responsible decision-making, based on CASEL's model (2005; 2012; 2015). The sample items are, "*I am aware of what I can and cannot do*" (Self-awareness), "*I establish healthy relationships with other people.*" (Relationship skills), "*I explore options when making decisions.*" (Responsible decision-making), "*I set goals for myself*" (Academic self-regulation), and "*I give importance to the opinions of others*" (Social awareness). The responses to the items ranged from 1-Never to 5-Always. The scale gives a total score and five sub-scores for each dimension. The scores obtained from the scale range from 20 to 100, with higher scores indicating higher SEL skills.

Warwick-Edinburgh Mental Well-Being Scale (WEMWBS)

The Warwick-Edinburgh Mental Well-Being Scale (WEMWBS) was developed by Tennant et al. (2007) to measure the mental well-being of individuals aged 16-70. The scale is 5-point Likert type (1-strongly disagree and 5-strongly agree). The scale has a single factor structure of 14 items and a minimum of 14 and a maximum of 70 points are obtained from the scale. Reliability studies of the scale were carried out on individuals aged 16 and over. For the criterion-related validity of the scale, the relationships between concepts such as life satisfaction, happiness, and emotional intelligence, negative and positive emotions were tested and showed high results (Tennant et al., 2007). In addition, the Cronbach Alpha reliability coefficient of the scale was found as .89 and the test-retest reliability coefficient as .83.

Keldal (2015) conducted the Turkish adaptation of the scale by using the translation-retranslation method for the language validity of the scale. The construct validity of the scale was provided by exploratory and confirmatory factor analyses. The structure obtained from the factor analysis showed harmony with the original version of the scale (Keldal, 2015). The result of the item analysis showed that the factor loads of the items varied between .55 and .82. The Cronbach Alpha reliability coefficient of the scale was reported as .92. In this study, the Cronbach's alpha reliability coefficient for the scale was found as .89.

The World Health Organization (WHO, 2004) defined the concept of mental well-being as being aware of one's abilities, overcoming the stress in life, being productive and beneficial in business life, and contributing to society in line with their abilities. In this definition, it can be seen that the productivity and functionality of the individual towards himself and society are emphasized. SEL skills include many skills that will have an impact in the personal and social life, such as being aware of one's abilities and weaknesses, recognizing and managing one's emotions, setting goals and achieving them, being conscious of one's own needs and values, solving interpersonal problems in a constructive way, etc. Damon (2004) stated that individuals might encounter many problems such as emotional disorders, economic inadequacies, low motivation and academic success, psychosocial crises and substance use during the growth process. The SEL model has positive results for the development of the individual in many areas such as mental health, adaptation and communication (Brackett et al., 2012; Zins et al., 2007), emotional stress (Durlak et al., 2011) and depressive symptoms (Horowitz & Garber, 2006). In addition, Denham and Brown (2010) stated that SEL skills support a person's well-being. For these reasons, the concept of mental well-being was used to test the criterion-related validity of SEL skills.

Procedure

In this study, which is aimed to develop a scale to assess social-emotional learning skills of young adults, the 10-stage scale development procedure proposed by Carpenter (2018) was used. First, related books, research and scales were reviewed. Then, CASEL's SEL model (2005, 2012, and 2015) was taken into consideration in order to develop the scale, and an item pool of 92 items was created based on this model. Next, the number of items was reduced to 55 by examining the previous work based on the CASEL model (e.g. Elias et al., 2007; Denham & Brown, 2010; Kress & Elias, 2006; Parker et al., 2007; Zins et al., 2007) and considering the characteristics of the young adulthood period. In order to ensure the content validity of the scale, six experts from Psychological Counseling and Guidance field (two professors, one doctor lecturer, two research assistants and one psychological counselor), one from the Educational Measurement and Evaluation Department, and one from Turkish Education Department were received, which included eight field experts in total. In line with expert opinions, 11 items were removed from the form, the items suggested to be corrected were corrected, and then a 44-item trial form was created. For the face validity and comprehensibility of the scale, the trial form was applied to five university students (three women, two men) and their opinions about the form were taken. The form was rearranged in line with the participants' feedback on the clarity of the items and the layout of the scale form, and this 44-item trial form was used for subsequent validity and reliability studies.

Within the scope of the construct validity studies of the scale, it was applied to 310 university students to perform EFA. The suitability of the collected data for factor analysis was tested with KMO and Barlett test results. After checking the compliance of the data with EFA, some items were removed from the scale according to the result of factor analysis and the final form of the scale was formed with 20 items. In order to verify the EFA results and test the theoretically constructed structure, confirmatory factor analysis (CFA) of the scale was performed on the data obtained from 220 students and criterion-related validity was calculated with WEMWBS. Detailed EFA, CFA, criterion-related validity and reliability results of the scale were presented in the findings section. The data of the study were collected online due to the COVID-19 pandemic in the spring and summer terms of the 2019-2020 academic year from voluntary students.

Data Analysis

In order to ensure the construct validity of the data, EFA was performed, and the Cronbach Alpha reliability coefficient for the scale and each dimension was calculated. The remaining items according to EFA results were applied to a different group and CFA was performed with the data obtained from this group. At this stage, the Cronbach alpha reliability coefficient was recalculated. In addition, in order to ensure criterion-related validity, the relationship between SELS-YF and WEMWBS was examined. Analysis of the research was carried out with IBM SPSS 23.0 and AMOS (Arbuckle, 2011) package programs.

FINDINGS

Results of Exploratory Factor Analysis

One of the ways to ensure the construct validity of the scale is to determine the factor number of the construct to be measured through EFA (Comrey & Lee, 1992). In order to conduct the exploratory factor analysis of the SELS-YF, a 44-item trial form was applied to 310 university students (207 females and 103 males). Kaiser-Meyer-Olkin sample suitability of the SELS-YF was 0.860; Barlett Sphericity test was found to be significant as .00. In line with these results, it was concluded that the SELS-YF was suitable for factor analysis (Tabachnick & Fidell, 2014, p.667).

Then, the Principle Axis Factoring (Tabachnick & Fidell, 2014, p.688) was used without defining any dimension for 44 items. Considering that there may be relations between the factors, the data were analyzed with the Promax oblique rotation method (Costello & Osborne, 2005; Tabachnick & Fidell, 2014, pp. 692-693). The factors reached as a result of the analyzes were determined by considering the rule of eigenvalue greater than 1 (Büyüköztürk, 2013). In the first stage, it was found that there were 11 dimensions with eigenvalues above 1. The items were reanalyzed considering the criteria that the factor loadings of the items were at least .30 (Merenda, 1997) and that the difference between the item factor loads loaded on more than one factor was .10 or greater (Tavşanlı, 2002). After the analysis, at the first stage, six items with a factor load below .30 were removed from the scale. Afterwards, the remaining 38 items were reanalyzed and the items with a difference of less than .10 in item factor loads were removed from the scale. At the last stage, after 18 items with a low factor load difference of less than .10 were deleted from the scale, the five-factor structure recommended by CASEL (2005; 2012; 2015) with 20 items was reached.

The 20-item five-factor structure obtained from the EFA analysis explained 58.3% of the total variance. According to the findings, the first factor, self-awareness, accounted for approximately 28.07% alone; the second factor, relationship skills, accounted for approximately 11.28%; the third factor, responsible decision-making, approximately 7.21%; the fourth factor, academic self-regulation, accounted for approximately 7.21% alone and the fifth factor, social awareness, explained about 5.05% of the total variance. In the Table 1 below, factor loads of the items reached at the last stage were provided. The sample items included "I am aware of what I can and cannot do" (Self-awareness), "I establish healthy relationships with other people." (Relationship skills), "I explore options when making decisions." (Responsible decision-making), "I set goals for myself" (Academic self-regulation), and "I give importance to the opinions of others" (Social awareness).

Table 1. Common factor loads, item factor loads and explained total variance

Item no.	Common factor loads	Factor Loads				
		Self-awareness	Relationship skills	Responsible decision-making	Academic self-regulation	Social awareness
1	.513	.816				
2	.569	.637				
17	.573	.597				
27	.537	.490				
34	.554	.454				
9	.502	.384				
23	.485		.865			
41	.606		.757			
13	.350		.607			
32	.479		.368			
30	.452			.701		
37	.529			.647		
40	.559			.623		
36	.510			.547		
18	.630				.672	
10	.510				.670	
28	.475				.530	
43	.406					.973
42	.312					.401
29	.404					.382
Explained total variance (%)	58.3	28.07	11.28	7.21	6.7	5.05

As seen in Table 1, the common factor loadings of items ranged from .312 ile .630. It can be said that this value range is sufficient in line with the relevant literature (Büyükoztürk, 2013; Merenda, 1997). According to the EFA result regarding the final version of the scale with 20 items and five factors, the dimension of self-awareness consisted of 6 items (1, 2, 9, 17, 27, 34), relationship skills consisted of 4 items (13, 23, 32, 41), responsible decision making consisted of 4 items (30, 36, 37, 40), academic self-regulation consisted of 3 items (10, 18, 28), and social awareness consisted of 3 items (29, 42, 43).

Results of Confirmatory Factor Analysis

Whether the five-factor structure of the 20-item scale obtained from EFA was confirmed within the framework of the theoretical model of CASEL (2005; 2012; 2015) was analyzed with the data collected from 220 university students (145 female, 75 male). The findings obtained from CFA were presented in Table 2 below.

Table 2. Goodness of Fit Indices for SELS-YF

Fit Indices	Estimated model	Fit indices level
χ^2/df	1.7	Perfect fit
RMSEA	.056	Acceptable fit
SRMR	.06	Good fit
GFI	.89	Acceptable fit
AGFI	.86	Acceptable fit
CFI	.91	Acceptable fit
TLI	.89	Poor fit
IFI	.91	Acceptable fit

According to the results of CFA, the ratio of the model's chi-square value to the degrees of freedom was found as significant ($\chi^2=271.411$, $df=160$, $p=.00$). However, as seen in Table 2, the χ^2/df ratio fitted the model better ($\chi^2/df= 1.7$) according to Schreiber et al. (2006) who stated that a χ^2/df ratio between 0 and 2 corresponds to a perfect fit. In addition, model fit indices including GFI, AGFI, CFI, IFI, RMSEA, and the SRMR, as presented in Table 2, showed an acceptable fit, except TLI value (Hu &

Bentler, 1999; Schreiber et al., 2006), indicating that the five-factor 20-item model was confirmed (Hu & Bentler, 1999; Jöreskog & Sorbom, 1993; Schreiber et al., 2006).

Results of Criterion-Related Validity Analysis

For the criterion-related validity of the SELS-YF, the relationships of total scale and its sub-dimensions and with the WEMWBS were examined. The 20-item scale, consisting of five factors obtained from EFA, was administered to 220 university students together with WEMWBS in order to examine its criterion-related validity. Table 3 presents the correlation coefficients between SELS-YF and its sub-dimensions and the WEMWBS.

Table 3. Correlations of the SELS-YF and its sub-dimensions with the WEMWBS

SELS-YF	WEMWBS
Total score	.638**
Self-awareness	.584**
Relationship skills	.509**
Responsible decision making	.357**
Academic self-regulation	.447**
Social awareness	.251**

** $p < .01$

As seen in Table 3, the correlations between variables were positive and statistically significant ($p < .01$), which can be considered as evidence for the validity of SELS-YF.

Table 4. Correlation coefficients between SELS-YF and its sub-dimensions

SELS-YF	Total score	Self-awareness	Relationship skills	Responsible decision making	Academic self-regulation	Social awareness
Total score	1					
Self-awareness	.812**	1				
Relationship skills	.509**	.396**	1			
Responsible decision making	.723**	.471**	.319**	1		
Academic self-regulation	.695**	.503**	.292**	.478**	1	
Social awareness	.544**	.249**	.445**	.303**	.144*	1

* $p < .05$, ** $p < .01$

Table 4 presents correlations between the SELS-YF and its dimensions. According to results, bivariate correlations among the SELS-YF total score and its sub-dimensions were statistically significant at the .01 level, except for the relation between academic self-regulation and social awareness, which was statistically significant at the .05 level, but weak (.164) (Nicol & Pexman, 2010; Pallant, 2016). The reasons for the weakness of this relationship were discussed in the discussion section.

Results of Reliability Analysis

Cronbach Alpha and McDonald's Omega coefficients were calculated for the total scale regarding the reliability of the SELS-YF. McDonald's Omega coefficient is one of the recommended reliability methods for the total scores of multidimensional scales (Hayes & Coutts, 2020). Cronbach Alpha score was evaluated for internal consistency of the total scale and the subdimensions. All were provided in Table 5.

Table 5. Cronbach Alfa and McDonald's Omega coefficients of SELS-YF and Cronbach Alfa coefficients of sub-dimensions

Scale and sub-dimensions	Cronbach Alpha (α) coefficients	McDonald's Omega (ω) coefficient
SELS-YF	.86**	.86
Self-awareness	.77**	
Relationship skills	.74**	
Responsible decision making	.71**	
Academic self-regulation	.73**	
Social awareness	.63**	

** $p < .01$

The Cronbach Alpha and McDonald's Omega coefficients for the scale were found as .86. The Cronbach Alpha was found as .77 for self-awareness, .74 for relationship skills, .71 for responsible decision-making, .73 for academic self-regulation, and .63 for social awareness, indicating that the scale can be used reliably. However, the reliability coefficient for the social awareness

dimension remained below .70, remaining outside the acceptable Alpha values (Nunnally & Berstein, 1994). Table 6 below showed the item-total correlations of the scale.

Table 6. Item-total correlations and Cronbach's Alpha coefficients of SELS-YF

Item No.	m	SD	Item-total correlations	Alpha if the item removed
1	3.61	.81	.43	.85
2	3.8	.72	.51	.85
9	4.05	.79	.46	.85
17	3.79	.87	.51	.85
27	3.57	.78	.49	.85
34	3.81	.79	.50	.85
41	3.88	.76	.56	.85
32	3.69	.84	.45	.85
23	3.85	.78	.43	.85
13	3.48	.85	.33	.86
30	4.09	.81	.41	.85
36	3.88	.85	.46	.85
37	4.13	.73	.47	.85
18	3.71	.86	.56	.85
28	3.50	.87	.43	.85
40	4.36	.68	.51	.85
42	4	.77	.30	.86
43	3.98	.67	.35	.86
29	3.82	.73	.37	.86
10	3.85	.90	.44	.85

The fact that the item-total correlations obtained from the scale were greater than .30 can be seen as evidence for the validity of the items (Büyüköztürk, 2013; Nunnally & Berstein, 1994). In this study, the item-total correlations of the SELS-YF ranged from .30 to .56, indicating as evidence for the validity of the items of the scale.

DISCUSSION

In this study, it is aimed to develop an instrument to assess SEL skills of young adults based on CASEL's five dimensional model. In this respect, first, EFA findings supported a five-factor structure of the scale developed within this study. Kline (2005) suggested reaching a heterogeneous sample as much as possible in order to have higher factor loadings and to obtain higher variance explained by the model. Considering the diversity in terms of variables such as age, gender, department, city, and university type in the sample group reached in this study, a very heterogeneous group was reached; hence, as the items in the scale had factor loads of .30 and above (Yong & Pearce, 2013) and explained total variance was 56.7% and the first factor alone explained more than 20% variance (Child, 2006) it can be said that EFA results were sufficient. Similarly, the findings obtained from CFA, which is performed to confirm a conceptually existing structure (McArdle, 1996), showed acceptable fit indices (Hu & Bentler, 1999; Schreiber et al., 2006). These results supported the five-dimensional structure of the scale, namely Self-Awareness, Relationship Skills, Responsible Decision Making, Academic Self-Regulation and Social Awareness, consistent with CASEL's (2005; 2012) framework, as aimed in this study. These findings supported the emphasis of Denham and Brown (2010) that SEL competencies cannot be independent from each other and that the dimensions develop together. In addition, it seemed to be compatible with the suggestion of Lester and Bishop (2000) that the conceptual framework identified at the beginning should be supported by the final analyzes of the construct validity. This scale, which has been developed in the current study, differs from other scales measuring SEL skills in the national literature (e.g. Kabakçı & Korkut Owen, 2010; Kocayörük, 2000; Totan & Kabasakal, 2013), considering the age group and its five-factor structure supported within the framework of the CASEL model.

A closer look at the research findings revealed that the dimension of self-awareness explained the model higher (27.46%) among the five factors, according to the EFA results. This situation can be explained by the fact that the Self-Awareness, which includes awareness and acceptance of one's own strengths and weaknesses, is a cognitive capacity unlike other dimensions (Asendorpf & Baudonnière, 1993), and it is a necessary capacity for other skills and therefore needs to be realized before them. For example, Carver and Scheier (1981) pointed out that self-awareness is primarily necessary for self-regulation and management skills. Another prominent finding in this context was that the Academic Self-Regulation skills dimension explained 4.86% of the total variance, which was the lowest one among the other dimensions. When the findings were examined in more detail, it can be

seen that the items removed from the scale (e.g. *"I manage to stay calm when stressed."*, *"I motivate myself."*, *"I manage my emotions in different situations and circumstances."*) according to EFA results indicate emotional self-regulation. The items that held onto the model on the other hand were *"I set myself goals."*, *"I make plans according to my goals."* and *"I will act according to my plans."* It can be seen that these items are mostly related to academic self-regulation. Therefore, this dimension, which is called Self-Management Skills in the CASEL model, was named Academic Self-regulation according to the findings obtained from the Turkish sample. This difference can be discussed from different perspectives based on the relevant literature. First of all, within SEL model suggested by CASEL, Self-Management Skills includes academic self-regulation skills such as self-motivation, goal setting, planning skills, as well as emotional and behavioral self-regulation skills for anxiety, stress and anger management (e.g. Denham & Brown, 2010; Elias et al., 2007; Zins et al., 2007). However, it was emphasized that factor analysis studies conducted to distinguish emotional self-regulation skills failed to reach consistent, comprehensive and repeatable findings (Skinner et al., 2003). For example, in the emotion regulation process model proposed by Gross (1998; 2001), it was stated that in the first stage, people encounter a situation that will evoke an emotional response, in the second stage they come into contact with the emotion-triggering dimension of this situation or not, in the third stage they make a cognitive assessment of the situation, and as a result, an emotional reaction emerged or did not occur, and in the last stage, emotions were expressed by pouring into behaviors. Improving emotion regulation skills can target any of these four stages. This process primarily involves awareness and appropriate expression of emotions. However, at this point, cultural structure stands out as an important variable (Gross & John, 1995). It was pointed out by Kağıtçıbaşı (1998) that the expression of emotions is not supported in Turkish culture. In the study conducted by Kuyumcu (2012), it was reported that university students in Turkey had lower levels of expressing their emotions and emotional awareness when compared to students in England. This may explain why only items for academic self-regulation were loaded under the Self-Management dimension in this study and why items for emotional regulation did not work. It can be said that the items loaded under the academic self-regulation dimension were related to self-directed learning skills, which has been widely covered in the related literature. Accordingly, within the framework of different self-management models, the learning process is associated with skills such as setting goals for oneself, motivating oneself to achieve them, managing time, and realizing cognitive, emotional and behavioral arrangements such as anxiety management (Boekaerts, 1996; Zimmerman, 1998; Pintrich, 2000; Winne, 1996). The common points in these models and the strategies suggested to develop self-regulation skills (Zimmerman, Bonner, & Kovach, 1996; Pintrich, 2000) encompassed the processes such as self-monitoring, developing strategies, and improving decision-making skills. Supporting this, the current results also indicated that Academic Self-Regulation had higher correlations with Self-Awareness and Responsible Decision-Making dimensions. Similarly, Academic Self-Regulation had the lowest correlation with Social Awareness dimension, which is associated with skills such as being able to read, understand and respond appropriately to other people's social messages, and exhibit empathetic and altruistic attitude (Frey et al., 2000). However, the fact that the correlations of each dimension with the total scores obtained from the scale ranged from .56 to .83, which was higher than the correlations among sub dimensions, might imply that SEL is a higher dimensional construct including multiple skills, as mentioned in the relevant literature (e.g. Elksnin & Elksnin, 2006; Korkut, 2004). In addition, the high reliability value obtained from the total scores of the scale indicated that the scale can be used unidimensional, also (See Kabakçı & Korkut-Owen, 2010). At that point, the most important limitation of this study was that test-retest reliability could not be performed due to the pandemic. In addition, the internal reliability coefficient observed as .65 for the Social Awareness dimension remained below the acceptable value of .70 (Nunnally & Berstein, 1994). It can be assumed that this situation might be a result of the fact that the social awareness items expressed skills such as respecting different views and opinions, showing empathy, and understanding the point of view of others might not have been adequately understood by university students and that they may have needed opportunities to observe themselves in this regard. Similarly, in a qualitative study conducted with primary, secondary and high school teachers in Turkey by Bacanlı et al. (2019), the educators stated that students should develop their empathy skills most. However, this assumption needs to be tested in further research and the social awareness dimension needs to be re-examined.

Criterion validity results of this study indicated positive, average and high-level relationships of both the total scale and sub-dimensions with mental well-being. This result seemed to be compatible with the goals of developing SEL practices to support mental well-being in schools in the United States (New York Office of Mental Health, 2006). The previous studies also indicated that SEL skills had positive outcomes on positive attitude development, academic achievement, low emotional stress and mental health (e.g. Durlak & Wells, 1997; Greenberg et al., 2001; Greenberg et al., 2003). Supporting these results, positive correlations were reported between self-regulation skills and school success and mental health (Baumeister & Vohs, 2007), and between responsible decision-making skills and avoidance of destructive behaviors and well-being (Denham & Brown, 2010), while the results such as loneliness, low academic achievement and school dropout were reported as a result of low relationship building skills (Sage & Kindermann, 1999; Wentzel, 1999). In this direction, it was stated that the development of SEL skills in order to increase well-being is among the educational goals of most countries (e.g. Cefai et al., 2018).

CONCLUSION AND RECOMMENDATIONS

Humphrey et al. (2011) who examined the existing scales related to SEL skills pointed out that many scales have been developed for American society. Thus, it can be said that this study contributed to the development of a culture-specific measurement tool based on the CASEL model. In addition, the CASEL model was tested for young adults in the cultural context specific to Turkey. In this framework, it was observed that academic self-regulation skills were revealed under the Self-Management dimension, unlike

the CASEL model and international literature. Other dimensions were supported as in the model. Considering that many scales in the literature included assessments of one or some of the SEL skills, which could be inadequate in evaluating more comprehensive and detailed process of social emotional learning (Zhou & Ee, 2012), it can be said that this scale, as a culturally-specific, valid and reliable measurement that include comprehensive and high-level skills, can be used to evaluate the SEL skills of young adults. Considering that in the report published by the World Economic Forum (WEF, 2020), it is stated that by 2025, various skills including SEL skills such as problem solving, self-management, working in cooperation with others, coping with stress, analytical thinking, flexibility, etc. will gain importance, this scale can be used to evaluate to what extent young adults have these skills required by the world of work and to determine the skills they need in this regard and then to plan the necessary implementations for them. In addition, this scale can be used to evaluate the role of SEL skills in predicting university students' career development (e.g., career search self-efficacy, career decision-making skills, and career engagement) and life satisfaction.

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Statements of publication ethics

We hereby declare that the study has not unethical issues and that research and publication ethics have been observed carefully.

Researchers' contribution rate

The study was conducted and reported with equal collaboration of the researchers.

Ethics Committee Approval Information

Ethical approval of this study was approved by Hacettepe University Ethics Committee (REF: 76942594-600/00001088792). The 1964 Helsinki declaration and its later amendments or comparable ethical standards were followed in all procedures performed in this study.

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