Research Article/Araştırma Makalesi

Social Self Perception Validity and Reliability Study

Oylum ÖZGÜL[1]

Abstract

The aim of this research is to develop a valid and reliable scale form of likert type in order to determine the social self-perceptions of high school students. A screening model was used from quantitative research methods.The sample consists of 302 students selected by simple random sampling method from a high school located in Malatya province Center.In the Study, the social sense of self scale form that was developed by the researcher was used.For the purpose of the study, the researcher created a 58-point question pool based on expert opinion and a survey of the literature.It was decided that 30 items should be removed from the scale based on the opinions of 15 experts for the candidate scale obtained and a likert-type scale of 5 with 28 items was created.When the research findings were examined, it was determined that the scale consisted of a 2-factor structure consisting of 10 Questions, which explained 62.005% of the total variance as a result of the explanatory factor analysis carried out to determine the validity of the structure.After Substance Analysis, Cronbach's alpha analysis test result was ,76 and kmo and Bartlett's test result was .763.According to the confirmatory factor analysis results, the alignment values of RMSEA and SRMR, CFI, NNFI, IFI and GFI were found to be within the range of expected values.Based on the findings from the research, it can be said that the scale has sufficient validity and reliability.As a result, it was determined that the prepared scale is a valid and reliable measurement tool that can be used to determine high school students ' social sense of self.

1. Introduction

It is possible to define the self-conception in the form of a person's view of himself, the way he represents himself in his mind.In addition, the self-conception is the representation of the person's perceptions of himself, his personal references (uploads), his past lives, his future goals, his social roles in his mind and the focus of the mind as the conceptual self.

The concepts that the individual creates in his memory in relation to himself are not very different from other concepts he has acquired in his life, but are more complex and diverse. Kihlstrom & Cantor (1984) are of the opinion that self-conceptions are content-dependent concepts as they are represented in the mind. Content-dependent self-conceptions represent an individual's beliefs about himself in various situations (Fiske & Taylor, 1991). An example for this is the way a student perceives himself or herself in an academic environment. In the academic

[1] Corresponding Author. ORCID: 0000-0003-4857-9974. oylumozgul@gmail.com

environment, the student can define himself with intelligent, entrepreneurial, interested in learning, while he can define himself with outward looking, friendly, altruistic features in the dimension of friend relations.As can be understood from the example, the social environment affects the specific dimension of an individual's self-structure, enabling the person's beliefs about the environment to come to the fore.The social self of the individual in the friend environment and the academic self in the school environment are in the foreground.The nature and qualifications of these skills, which are very important for both social and individual life, are questions that psychology has been focusing on since the early 1990s, but has not yet been able to answer.The first scientific reviews of these skills are based on William James ' the Principles of Psychology. In this study, James asserts the thesis that there are many social selves at the basis of human social relations. Although these findings shed light on social relations, James focused on the concept of self rather than skill(Bacanlı,2002).Although the concept of social skill is established in our language in a singular way, social skill is actually composed of a group of skills. It is beneficial to explain some concepts that can be confused with social skills. One of the concepts that can be associated with social skill is the concept of social anxiety(Bacanlı,2002).Social anxiety is a type of anxiety that is expected to occur especially in social relationships or in social relationships. The source of social anxiety is the social interactions that are experienced at the moment or will be experienced. People with high social anxiety avoid social situations because they are afraid of others ' thoughts (Burger,2006).

Other concepts that may relate to social skill are timidity and assertiveness. There are some personal characteristics that people have. Some of these personal traits are innate in disposition. Some are learned afterwards. Also, assertiveness is a feature that can be learned later. The different forms of communication that people use to meet their needs, constitute their behavioral pattern. One of these forms of communication is timidity.The timid individual is unable to fully meet his or her needs.As a result, psycho-social or even physiological dissatisfaction occurs in these people (Acar & McWhirter,2000).

In addition, the concept of social competence is used in place of the concept of social skill. It seems appropriate to consider social competence as a concept that gives clues about the person's future behavior and assumes consistency in behaviors as a result of this evaluation (Bacanlı,2002).

Social competence refers to whether a person has acquired the necessary skills to conduct social relations. In this matter it involves the evaluation of the person according to a measure (Burger,2006). According to Rose and Krosner, there are different definitions of social competence included in the literature. Some of these definitions;

- Social success,
- Achieving the intended social objectives in different situations,
- Achieving positive results using appropriate methods,
- The effectiveness of the individual in dealing with the problems they face,
- Behaviors that reflect successful social function,

- Ability to demonstrate culturally accepted behaviors,

- Ability to achieve personal goals while maintaining positive interaction over time and in different situations (Albayrak, Çetin & Bilbay,2003).

Eliot ve McKinnie, conceptualizes the social competence,

- Social skill perceived by peers and other important individuals,

- As a structure consisting of the composition of two interactional structures, as the self-perception in social ability.Social skill consists of abilities that enable the individual to reveal appropriate behaviors in special social situations.

This ability includes collaboration, self-control, understanding the needs of others and responding to social imperatives and social interaction and strengthening established social interaction (Nowicki,2003).The development of social skills is intertwined with what we consider to be social competence. These are summarized as;

- Self-expression, self-confidence, acceptance by friends,

- Acceptance by family members and other important individuals, Social independence, a supportive social environment (Akkök,2003).

In the study conducted by Miller, Murry & Brody (2005), a total of 232 samples were reached from 115 boys to 117 girls, and it was found that boys showed more social avoidance behavior than girls.There was a significant association between paternal stress and social avoidance behavior and it was found that boys were more affected by paternal stress than girls.Spence, Donovan&Bachmann-Toussaint (1999),"cognitive characteristics of children with social phobia, social skills and social outcomes" forensic studies, social skills, social outcomes, self-talk, outcome expectations, and in terms of evaluating their performance on social tasks, 27 social phobic children ranging from 7 to 14 years of age, compared with their peers without social phobia.The results of the study showed that social phobic children had lower performance expectations and more negative internal speech in social tasks than non-social phobic children, and that social phobic children showed poor social skills in assertiveness inventories and direct behavioral observations in their assessment of themselves and their parents.Steelman & Powell (1985), in their study of students ages 6-11 and 12-17, found a meaningful relationship between social skill and birth order.According to research results, children who was born after big one are led by their older siblings and develop their social skills better.Next-born children have to interact with their other siblings from the moment they are born. Children born later are seen to be more advantageous in acquiring social skills such as being extroverted, getting along well with other children, building popularity and easy friendships, and being appreciated by their teachers and families.Therefore, when the relevant literature is examined, it is thought that this study will fill in the gaps in the field as well as contribute in many aspects.When we look at all these studies and studies, the overall goal of this research is to develop a valid and reliable scale form of social self-perception.In line with this general purpose, the research sought answers to the following question:

Is the improved 'social self-perception scale form' a valid and reliable scale?

2. Method

2.1. Research Design

This research was defined as a cross-sectional study because it was carried out for a specific sample group in a given time range.Hence it has been treated as a quantitative study.Study data were analyzed according to cause-effect relationship.Cross-sectional research is often used in the study of some inter-variable relations along with their descriptive properties. These studies are advantageous because they are relatively quick results.Cross-sectional studies are characterized by timing.In cross-sectional studies, exposure and outcome are evaluated simultaneously.

A general screening model was used in the research."General scanning models are the scanning arrangements made on the entire universe or a group of samples or samples taken from it to make a general judgment about the universe in a universe consisting of many elements"(Karasar,1994,s.79).In this context, due to the nature of the study, it is thought that the optimal model is the general screening model.

2.2. Population and Sample

The universe of the research is composed of high school students who receive education and training at the high school level.In the 2018-2019 academic year, the sample consisted of 302 students who were studying in grades 9.,10.,11. and 12 selected by simple random sampling method from a high school located in the center of Malatya and who agreed to participate in the survey.Participants constitute a homogeneous group based on their academic achievements, socio-economic levels and personality traits.

2.3. Data Collection Tools

During the preparation of the scale articles, first of all the literature on the subject was scanned. Observation and student opinion were taken in various high schools for more detailed research. During the student interviews, discussions about social skills, social self-perception and social competence were conducted.In the light of the discussions, it was decided to conduct research on the subject.Student and teacher interviews and observation results were taken into account when the substance pool was created.The 58-item pool created in the initial phase has been evaluated together with the field experts and reduced to 28 items.The scale is a Likert-type scale judged between " 5 "Completely agree and" 1 " disagree at all.Responses of negative statements determined on the scale are re-coded (recode) in the opposite direction between "totally agree: 1 " and "totally disagree: 5".The maximum score that can be taken from the scale is 140 and the minimum score is 28.As the score from the scale increases, individuals perceptions of their social self also develop positively.In order to determine the grammar rules and intelligibility of the 28-item form, an expert was interviewed and a preliminary trial was conducted on 25 students in order to determine the response time of the draft scale and to assess its applicability.As a result of the application, it was determined that the response time of the scale was 25-30 minutes and that the

scale substances were understandable.Version of scale finalized in the light of all these data and studies.

2.4. Data Collection

The research was conducted in October of the 2018-2019 academic year.After the final version of the scale to be used in the research was prepared, pre-trial applications were first performed on 25 students.Pre-trial lasted an average of 25-30 minutes.Then the scale was applied to 320 students in this form.All necessary explanations were made by the researcher about the study before the survey form was distributed to the participants.Some survey forms have been excluded from analysis.Participants are composed of volunteer students.

2.5. Data Analysis

The data analysis process regarding the validity and reliability of the scale was carried out in two stages.In the first phase, expressionist factor analysis was used to refine the scale's structural validity.In explainer factor analysis, the basic component factorization method was used and maximum variability (Varimax) from perpendicular rotation methods was applied as rotation.In factor analysis, substances with material factor loads below 40 are excluded from the analysis.In addition, .32 values were taken into consideration in the determination of boarding items (Çokluk,Şekercioğlu&Büyüköztürk,2012; Tabachnick&Fidell, 2013). Each item that did not meet these criteria was removed step by step and the analysis was renewed each time. In determining the factor structure of the scale, eigenvalues related to the factor, slope-deposition graph and variance ratios described by the factor were evaluated. (Çokluk vd., 2012).

In the second phase, confirmatory factor analysis was used in order to verify the factor structure of the scale revealed by explanatory factor analysis. In the evaluation of confirmatory factor analysis results, model adaptations values related to factor analysis were utilized. Widely used by researchers of the frame to degrees of freedom ratio ($\chi2/sd$) the (root mean square error of approximation (RMSEA), comparative fit index (CFI), goodness of fit index (GFI), standardized by the square root of the average now (SRMR) and non-normed fit index (NNFI) have been considered (Çokluk, Şekercioğlu & Büyüköztürk, 2010; Hooper, Coughlan & Mullen, 2008; Kline, 2005). Finally, Cronbach Alpha and Item Total correlation values were examined for reliability analyses of the scale. SPSS 25 and LISREL 8.8 statistical programs were used in the analysis.

3. Findings

Material analysis and reliability are discussed in this section together with structure validity.

3.1. Exploratory Factor Analysis

In order to examine the factor structure of the scale, the first clarifying factor was made within the scope of structure validity.Prior to factor analysis, whether the data was suitable for factor analysis was examined by Kaiser-Meyer-Olkin and Bartlett test (Çokluk vd., 2012).The results of the analysis revealed that the Bartlett test result was statistically significant (χ^2 = 2356.412, sd = 378, $p<.001$)

and the Kaiser-Meyer-Olkin value was .763 for the 28-item social self-scale. The fact that the Kaiser-Meyer-Olkin value is over .60 and the Bartlett test result is significant (Tabachnick&Fidell, 2013).States that the data structure is appropriate and the sample size sufficient for factor analysis.After examining these results, the process of explanatory factor analysis related to the scale was started.In order to examine the factor structure of the scale, main components analysis was used as a factorization technique along with expressionist factor analysis.Eigen value 1 and above are taken as criteria.In addition, slope-deposit graph related to the scale was examined in order to determine the factor structure of the scale.

Figure 1. Scree Plot Graph related to Scale.
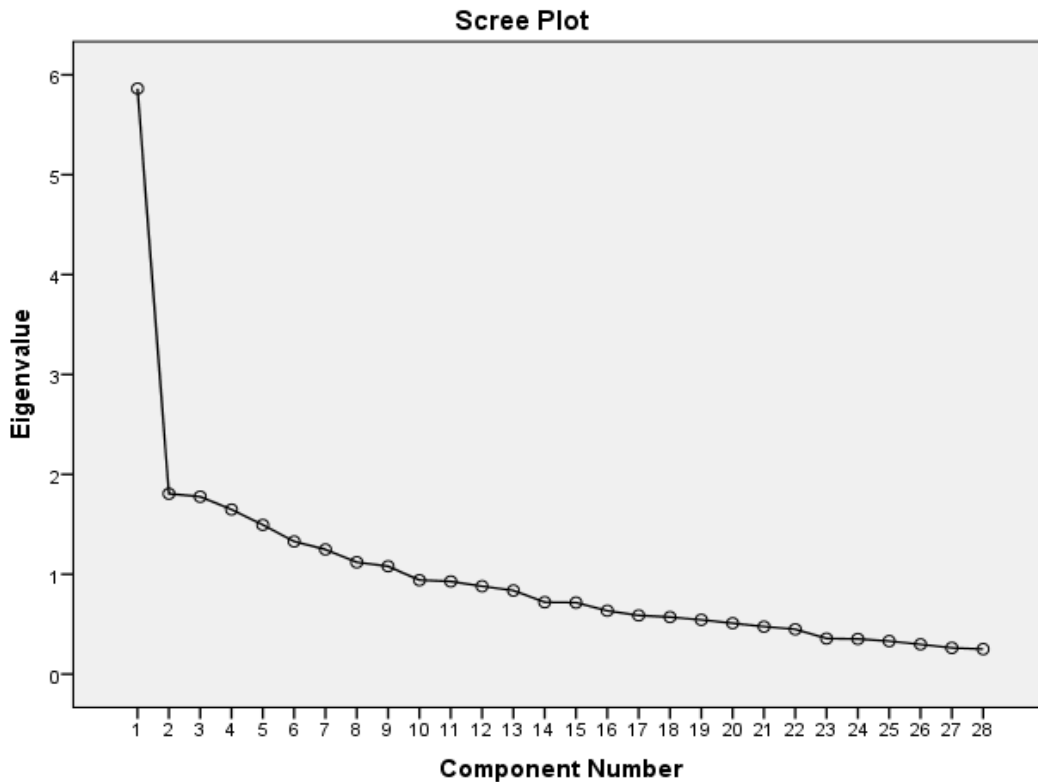
The results of the factor analysis showed that the 28-item scale had a 9-factor structure with an eigenvalue of over 1, explaining 62.005% of the total variance.Eigenvalues on the scale ranged from 1,079 to 5,862. When scree plot graph given in Figure 1 is examined, it is seen that the scale may have a two-factor structure (Çokluk vd., 2012). After examining these results, factor load value and overlap items related to the scale were examined. When the factor loads related to the scale were examined, it was seen that the factor load values of the items 13, 15 and 17 on the scale were below .40. These substances are Later, overlap substances in the scale were examined and scale substances with factor load value of 32 and above in more than one item were excluded from the analysis (Tabachnick&Fidell, 2013). This process was done for each item and each time the analysis was renewed.As a result of factor analyses, it was revealed that the two factor structure of the scale consisting of 10 items with an eigenvalue of more than 1 explained 48.048% of the total variance.It was seen in the first factor contained five substances with an eigenvalue of 3.388, explaining 24.319% of the total

variance.Factor loads of these substances vary between .533 and .785. It was seen the substances included in the first factor were often found to include the person's assessments of himself in social settings.Accordingly, this dimension is called 'internal evaluation' as a result of the examination of the relevant literature. Similarly, it was also seen the second factor was found to have a five-matter structure with matter charges between .584 and .739. The contribution of this factor to total variance was found to be 23.730% and its eigenvalue was 1.417.It can be said that the items in this dimension are related to how the person is perceived by others. In this respect, this dimension is called 'extrinsic evaluation'. These two factors explained 48.048% of the total variance. The results of the analysis on the factor structure and factor loads related to the scale are given in table 1.

Table 1. Analysis results of Factor Structure and Factor Loads Related to Scale

Scale Items	Structure Of Scale To Factors			
	Factor 1	Factor 2	h^2	r
a1	.619		.484	.503
a2	.533		.398	.437
a8	.785		.644	.613
a17	.732		.537	.466
a28	.703		.504	.506
a11		.652	.443	.470
a12		.739	.585	.531
a16		.649	.453	.444
a19		.621	.386	.364
a20		.584	.372	.397
Described Variance (%)	24.319	23.730	48.048	
Eigen Value	3.388	1.417		
Internal consistency (α) value	74	.67	.76	

Note. h^2 Factor common variance, r = Total Item correlation values

3.2. Confirmatory Factor Analysis

A second order confirmatory factor was concluded to confirm the 10-items structure obtained by the exploratory factor analysis.The model and standardized factor load values for confirmatory factor analysis are given in Figure 2.

Figure 2. Second Order Confirmatory Factor Analysis Results related to the Factor Structure of the Scale.
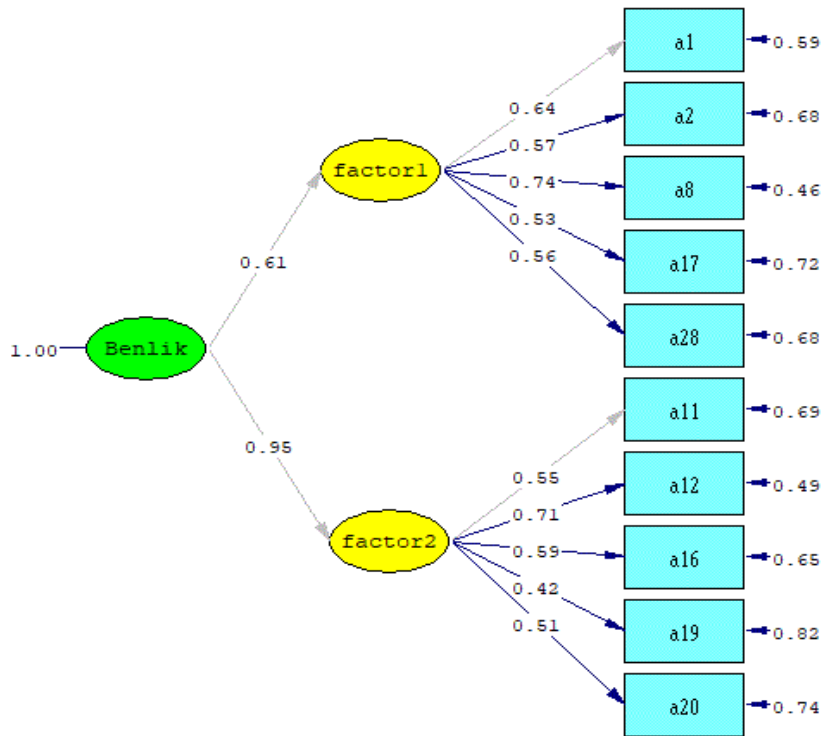
The results of the confirmatory factor analysis showed that the scale that consisting of 10 items and two sub-factors were produced an acceptable adaptive value and the standardized regression coefficients were above .40. When the related adaptive values of the model were examined, the value of χ2 was 87,55 (p <.001) and significant.The ratio of this value to degree of freedom (87,55 / 34) was calculated as 2,575. The ratio of χ2 to the degree of freedom is less than 5 is considered as a good fit (Hooper et al., 2008; Kline,2005).When other fit indices were examined it was seen that; RMSEA = .072, CFI = .95,

NNFI = .93, GFI = .95 and SRMR = .053.When the fit indices that obtained were evaluated, RMSEA and SRMR values which are .08 and below to good fit, CFI, NNFI, IFI and GFI values .90 and above are acceptable, and .95 and above are indicated to good fit (Hooper et al., 2008; Kline, 2005).These results brace that the 10-items and two-factors scale structure produce good fit values.

3.3. Reliability Analysis and Inter-Factor Correlation Results

The internal consistency coefficient (α) and total item correlation values were examined within the scope of the reliability study of the Social Self-perception scale.The internal consistency value of the first factor of the scale was found as .74, for the second factor that is external consistency .67 and internal consistency value for the overall scale was .76. In general, internal consistency value of .70 and above

is considered as a good reliability level in the related literature (Büyüköztürk, 2010).However, it is stated by the researchers that this limit may change as much as .50 and that internal consistencies above this value can be considered as acceptable reliability level even though it is lower (Howard, 2019; Kalaycı, 2010). Besides, total item correlation values of the scale were examined to be between .364 and .613. The findings and total item correlation values of the scale's reliability analysis results are given in Table 2.

Table 2. Relationship between Factors of the Scale and Descriptive Statistics

Scales	1.	2.	3.
1. Factor one (internal evaluation)	–	.392**	.885**
2. Factor two (extrinsic evaluation)		–	.775**
3. Total social-self			–
Average	18.627	20.458	39.085
Standard deviation	4.317	3.180	6.286

**p<.001

In conclusion, the correlation values amongst the dimensions of the scale were examined.Correlation analysis results show that there is a positive and significant correlation amongst the dimensions of the scale.The correlation coefficient amongst subscales was seen as .392. The factor one was found to have a strong correlation with the overall scale of .885 when the second dimension with the overall scale was found of .775.

4. Discussion, Conclusion And Suggestions

The main purpose of this study is to enhance a valid and reliable 'social self-perception' scale form.The study was conducted with 300 high school students.When we look at the findings of the study, it is seen that the results obtained are encouraged by the literature and serve the purpose in terms of validity and reliability.According to Tajfel (1982: 2), social identity is "the part of an individual's self-perception arising from his/her knowledge of affiliation in a social group or groups, and from the worthiness and emotional significance he/she attaches to that affiliation.According to John Turner (1978:105), who refocused to the concept of social identity and self, "an individual's concept of self and therefore self-esteem is anchored in his/her social class affiliation, which is, his/her social identity that perceived". "The need for a positive self-esteem" (Turner,1982:33) is a basic human motive, and in some circumstances, when social identity becomes evident, it is up to the social identity to fulfil it.This situation becomes clearer especially during the adolescence of the individual.Michelson, Sugai, Wood&Kazdin (1983) examined sixteen different definitions made on social skills and found seven common points of these definitions.These items are acquired through learning social skills, include verbal and non-verbal behaviours, initiate interaction and provide appropriate response.Besides, the effectiveness of these skills increases with social rewards, occurs as a result of the interaction of the environment and the individual and as a result of the interaction of the individual's demographic characteristics, the deficiencies in the skills can be identified through evaluation and can be improved with education (Akt.:Elliot&Gresham, 1993).Correspondingly with this study, the fact that the scale consists of a 2-dimensional structure and that internal and external factors affects social-self are

enhanced by the related literature.Rinn&Markle (1979) are examined social skills in four categories.These categories include: self-expression skills such as expressing feelings and thoughts, expressing positive thoughts about oneself; environment expand skills such as express their positive thoughts to friends, to join others' thoughts, to praise others; assertiveness skills such as asking, rejecting unreasonable requests; speech and interpersonal problem-solving communication skills (Akt: Cartledge&Milbum, 1983).In this context, when we look at the internal evaluation dimension of social self-perception scale, it is seen that it is enhanced by the studies.For the external evaluation dimension, we see that the relevant field is enhanced by the literature and the studies made.Yet, some research results also reveal the limited and incomplete aspects of this study.Namely; in the related literature, it was observed that birth order, social phobia, academic achievement and parental attitudes also had an effect on social self-perception.In this context, it can be emphasized that this aspect of the research is weak from others.Social skills training is a method of training aimed at the acquisition of social skills, mostly based on behavioural techniques, performance-based, applied individually or in groups (Shepherd, 1983).Social skills are teachable behaviours and most of them can be acquired by problematic or disabled children through an appropriate education process (Gresham, 1997). The aim of social skills training aiming at systematically acquiring the identified deficiencies is to improve the interaction skills of individuals, to help them adapt to the environment they live in and to improve their quality of life (McGuire&Priestley, 1981).Therefore, when we consider the external and internal assessment dimensions, these dimensions of social skills were enhanced by the literature.While defining social skill Merrell (1999), emphasizes the internal evaluation dimension and defines social skill as the individual's special behaviours that provide socially desired results.And Coleman (1992) states that social competence consists of social skills, emotional factor and self-control sub-dimensions.However, it is seen that the social-self emphasizes the internal evaluation dimension.Riggio (1986) emphasized the cognitive dimension of the affective domains and gave importance to the internal evaluation dimension.In recent years, researches aimed at determining the social competence of children and adolescents and eliminating their social skills have gathered momentum.With their age, children learn socially acceptable ways of expressing themselves (Herbert, 1996). Studies show that there is a positive relationship between age and social skills (Matson, Heinze, Helsel&Kopperman, 1986; Tüy, 1999).In this context, when we look at the adolescence period during which social identity and self-seeking are intense, the importance of the perception of the person at this point was the main point emphasized in this study.Therefore, it was aimed to enhance a valid and reliable scale form to measure social self-perception of high school students.While creating the scale items, the pool of 58 items were evaluated together with the field experts and reduced to 28 items.These dimensions include internal and external evaluations.In order to determine the grammatical rules and comprehensibility of the 28-items form, the subject matter expert was interviewed and a pre-trial application was conducted on 25 students in order to determine the response time of the draft scale and to evaluate its applicability.The last form of the scale was applied to 302 students in

an Anatolian High School in Malatya and then the validity and reliability analysis was performed.

The main results of the study are listed below:

As a result of the literature review of the scale enhancement process, it was started by creating pool of 58 items.In order to determine the content validity of the items in the item pool, expert opinion was applied and 30 items that were considered inappropriate were removed from the scale and a draft scale form of 28 items was formed.The scale was applied as a preliminary application to 25 students selected from the study group and the intelligibility and response times of the items were determined.The draft scale was applied to the high school students in the study group and then the construct validity studies were started with exploratory factor analysis.As a result of the analysis, it was determined that the scale had a 2-factors structure consisting of a total of 10 items.According to the exploratory factor analysis, KMO sample suitability coefficient was found to be .763, and Bartlett test result was found to be statistically significant (χ^2 = 2356.412, sd = 378, p <.001).As can be seen, these results indicate that the responses to the scale items can be factorized.An analysis explaining 50-75% of the total variance is considered valid by the relevant literature.As a result of this process, a 2-factors structure has emerged explaining 62,005% of the total variance.Confirmatory factor analysis was conducted to test the 2-factors structure of the scale.As a result of the analysis; RMSEA = .072, CFI = .95, NNFI = .93, GFI = .95 and SRMR = .053.According to the results of the analysis, it was determined that the scale had acceptable and excellent adaptive values and the 2-factors structure of the scale was confirmed.In the final stage of the analysis, the reliability level of the scale was examined.The Cronbach-alpha reliability coefficient for the whole scale was 76, and it was determined that the corrected total item correlation values of each item in the scale were higher than 0,30, and the unrelated t-test results between the item mean scores of the upper and lower 25% groups were significant in favour of the upper group.This information shows that the scale has sufficient reliability level.According to the information obtained from the study; the social self-perception scale of high school students is a valid and reliable scale that can be used to determine the social self-perception of high school students.This scale can be used in various experimental or descriptive studies.Based on the findings of the study, the following suggestions were presented to the researchers;The sample group of the study can be expanded and can be worked with participants with different profiles.Comparing adolescents' social self-perceptions with different variables may make the study more powerful.

References

Acar, N. V. & Mc. Whırter, J. (2002). *Ergen ve çocukla iletişim.* Ankara: U.S.A. Yayıncılık.

Akgül, A. (2003). *Tıbbi araştırmalarda istatistiksel analiz teknikleri*. Ankara: Emek Ofset.

Akkök, F. (1999). *İlköğretim de Sosyal Becerilerin Geliştirilmesi (Anne Baba El Kitabı).* İstanbul: Milli Eğitim Basımevi.

Arıkan, R. (2011). *Araştırma yöntem ve teknikleri*. Ankara: Nobel Yayınevi.

Atılgan, H. (2006). *Eğitimde ölçme ve değerlendirme.* Ankara: Anıl yayıncılık.

Aydemir, Ö. (2012). *Ölçek geliştirme, güvenirlik ve geçerlik*. http://www.saykad.net/wp-content/uploads/2012/11/o_aydemir1.pdf adresinden edinilmiştir.

Bacanlı, H. (1997). S*osyal ilişkilerde benlik kendini ayarlamanın psikolojisi*. İstanbul: Meb Yayınları.

Bacanlı, H. (1999). *Sosyal beceri eğitimi*. Ankara: Nobel Yayın Dağıtım.

Bademci,V.(2006).Tartışmayı sonlandırmak:Cronbach'ın Alfa Katsayısı, iki değerli ölçümlenmiş maddeler ile kullanılabilir.*Kazım Karabekir Eğitim Fakültesi Dergisi I3,* 438-446.

Büyüköztürk, Ş. (2002). Faktör analizi: Temel kavramlar ve ölçek geliştirmede kullanımı. *Kuram ve Uygulamada Eğitim Yönetimi Dergisi, 32,* 470-83.

Büyüköztürk, Ş. (2004). Veri analizi el kitabı. *Ankara: Pegem A Yayıncılık*.

Büyüköztürk, Ş. (2005). *Veri analizi el kitabı* (5. Baskı)*.* Pegem Yayınları.

Büyüköztürk, Ş. (2010). *Sosyal bilimler için veri analizi el kitabı: İstatistik, araştırma deseni, SPSS uygulamaları ve yorum*. Ankara: Pegem.

Burger, J. M. (2006). *Kişilik* (İ.D.E, Sarıoğlu, Çev.). İstanbul: Kaknüs Yayınları.

Çokluk, Ö., Şekercioğlu, G. & Büyüköztürk, Ş. (2012). *Sosyal bilimler için çok değişkenli istatistik: SPSS ve LISREL uygulamaları.* Ankara: Pegem Akademi.

Deniz, Z. (2007). Psikometrik Ölçüm Aracı Uyarlama. *Ankara Üniversitesi Eğitim Bilimleri Fakültesi Dergisi 40*(1), 1-16.

DeVellis, R. F. (2003). Scale Development Theory and Applications Second Edition. *SAGE Publications International Educational and Professional Publisher, chapter 5*: 60-69.

Ekici, E. (2012). Öğretmenlere Yönelik Bilişim Teknolojileri Öz-yeterlik Algısı Ölçeğinin Geçerlik ve Güvenirlik Çalışması. *Pamukkale Üniversitesi Eğitim Fakültesi Dergisi 31,* 53-65.

Ercan, İ. & Kan, İ. (2004). Ölçeklerde güvenirlik ve geçerlik. *Uludağ Üniversitesi Tıp Fakültesi Dergisi 30*(3), 211-16.

Erkuş, A. (2010). Psikometrik terimlerin Türkçe karşılıklarının anlamları ile yapılan işlemlerin uyuşmazlığı. *Eğitimde ve Psikolojide Ölçme ve Değerlendirme Dergisi (2*), 72-77.

Fiske, S. & Taylor, S. E. (1991). *Social cognition*. NewYork: Mc Graw-Hill.

Hooper, D., Coughlan, J. & Mullen, M. R. (2008). Structural equation modelling: guidelines for determining model fit. *Electronic Journal of Business Research Methods, 6*(1), 53-60.

Howard, M. C. (2019). Introduction to Cronbach's Alpha. mattchoward.com/introduction-to-cronbachs-alpha/adresinden edinilmiştir.

Kalaycı, Ş. (2009). *SPSS uygulamalı çok değişkenli istatistik teknikleri*. Ankara: Asil Yayınları

Karasar, N. (1994).*Bilimsel araştırma yöntemi* (5. Basım)*.* Ankara:3A Araştırma Eğitim Danışmanlık Ltd.

Kurnaz, M. & Yiğit, N. (2010). Fizik Tutum Ölçeği: Geliştirilmesi, Geçerliği. *Necatibey Eğitim Fakültesi Elektronik Fen ve Matematik Eğitimi Dergisi (EFMED), 4*(1), 29-49.

Kuzgun,Y. (2006). İlköğretimde rehberlik.*Hacettepe Üniversitesi Eğitim Fakültesi Dergisi*, *8*(8).

Malhan, S. & Öksüz, E. (2012). *Sağlığa Bağlı Yaşam Kalitesi Kalitemetri.* 1-5. Bölüm:29-98.

Nowicki, E. A. (2003). A meta-analysis of the social competence of children with learning disabilities compared to classmates of low and average to high achievement. *Learning Disability Quarterly*, *26*(3), 171-188.

Öğretmen, T. (2006). *Uluslararası Okuma Becerilerinde Gelişim Projesi (PIRLS) testinde psikometrik özelliklerinin incelenmesi, Türkiye Amerika Birleşik Devletleri örneği*. Yayımlanmamış Doktora Tezi, Hacettepe Üniversitesi, Ankara.

Özdamar, K. (2002). *Paket programları ile istatistiksel veri analizi- 2 (çok değişkenli analizler)*. Eskişehir: Kaan Kitapevi.

Öztuna, D. (2008). *Kas-iskelet sistemi sorunlarının özürlülük değerlendiriminde bilgisayar uyarlamalı test yönteminin uygulanması*. Yayımlanmamış Doktora Tezi, Ankara Üniversitesi, Ankara.

Rawson, H. M. & Turner, N. C. (1982). Recovery from water stress in five sunflower (Helianthus annuus L.) cultivars. II. The development of leaf area. *Functional Plant Biology*, *9*(4), 449-460.

Santrock, J. (2010). *Educational Psychology* (5th ed.). New York: McGrawHill.

Şencan, H. (2005). *Sosyal ve Davranışsal Ölçümlerde Güvenilirik ve Geçerlik* (1. Baskı). Ankara: Seçkin Yayıncılık.

Şimsek, Ö. F. (2007). *Yapısal eşitlik modellemesine giriş: Temel ilkeler ve LISREL Uygulamaları.* İstanbul: Ekinoks Yayıncılık.

Tabachnick, B. G. & Fidell, L. S. (2013). *Using multivariate statistics*. Boston, MA: Pearson

Tajfel, H. (1982). Social psychology of intergroup relations. *Annual review of psychology*, *33*(1), 1-39.

Taşkın, Ç. & Akat, Ö. (2010). *Araştırma yöntemlerinde yapısal eşitlik modelleme*. Bursa: Ekin Yayınevi.

Tavşancıl, E. (2002). *Tutumların Ölçülmesi ve SPSS ile Veri Analizi*. Ankara: Nobel yayınevi.

Taylor, H. & Terasa, C. (1999). The structural and contextualanalysis of anger in urban African-Amarican adolescents. *Dissertation Abstracts International,60*(4),1025A-1026A.

Yılmaz, E. & Eser, E. (2011). Miyokart Enfarktüsü Boyutsal Değerlendirme Ölçeği (MIDAS) Türkçe sürümünün psikometrik özellikleri. *Anadolu Kardiyoloji Dergisi, 11,* 386-401.

SRA Strategic Research Academy ©