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School guidance services awareness scale (SGSAS): The study of validity and reliability in a sample of Turkish adolescents

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Abstract
Students with higher awareness about school guidance services benefit from guidance services more effectively. Studies to identify the awareness levels of students about school guidance services and studies that aim to increase their awareness levels are considered as an important factor that increases the impact of guidance services. Although studies on determining the awareness levels of students about school guidance services and increasing their awareness levels are considered important, it can be stated that there are a limited number of studies in the literature. As a result of the literature conducted in the study, no measurement tool was found to determine the awareness levels of Turkish adolescent students with regard to school guidance services. The aim of this study is to develop a scale to identify awareness levels of students for school guidance services. During the scale development process, primarily a pool of items was formed and views of experts were obtained to ensure the content validity. In order to determine the construct validity of the scale, factor analysis, which is a multivariate statistical analysis type was employed. Exploratory and confirmatory factor analyses were performed in this process. Exploratory factor analysis was conducted on data obtained from a total of 250 high school students, 143 of whom were female, 107 of whom were male, all of whom were between the ages of 14–19. Correlation analysis and t-test were employed for the item analysis of the scale. The Cronbach alpha reliability coefficient of the scale was calculated as .84. In order to evaluate the construct validity of the model that emerged as a result of the exploratory factor analysis, a confirmatory factor analysis was performed on the data collected from a total of 399 high school students, 263 of whom were female and 136 were male. As a result of this study, a valid and reliable measurement tool with a total of 21 items, consisting of 2 sub-dimensions, one related to the awareness of the necessity of guidance services and the other related to the understanding of guidance services was obtained. This scale is expected to contribute to the work of researchers in their studies related to school guidance services and the efforts of school counsellors who aim to enhance the impact of school guidance services.

Keywords Comprehensive guidance and counselling programmes · Developmental guidance · Guidance and psychological counselling

Introduction

Changes in today's education understanding make it necessary to equip students with twenty-first century skills along with the paradigm change expressed as Education 4.0 (Keser & Semerci, 2019). Within this process, gaining such skills as flexibility, collaboration, proactive adaptation to changing conditions (Hughes, 2017), non-linear thinking abilities, self-management and self-efficacy comes to the fore (Wallner & Wagner, 2016). Both in the process of gaining these skills (Karacan Özdemir & Ayaz, 2018) and at the point of meeting the differing needs of students (Gysbers, 2001; Kuzgun, 2009; Negi, 2017), the importance of guidance services in education increases (Yeşilyaprak, 2019). Guidance services that aim to support life career development by providing students with different competencies in line with their personal-social, academic and career development needs (Gysbers, 1997; Gysbers & Henderson, 2012; Nazlı, 2016) are perceived as an indispensable element of the education system (Gibson & Mitchell, 2008; Kuzgun, 2009; Mutua, Kaaria, & Wamalwa, 2018; Şahin, 2019).

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Educational guidance services aim to enable students to get to know themselves better, to accept themselves, to deal with the problems they face, to make healthy decisions, and to realize themselves by using their potential in the most efficient way (Yeşilyaprak, 2019). In order to achieve these goals, educational, vocational and personal-social guidance services are offered with a preventive and protective approach in line with the developmental guidance approach (Ministry of National Education, 2017a). However, some researchers state that the expected efficiency from these services cannot be obtained adequately (Mutua et al., 2018; Parmaksız & Gök, 2018; Pişkin, 2006; Terzi, Ergüner-Tekinalp, & Leuwerke, 2011;Yüksel Şahin, 2008). In order for the guidance services to be successful, there is a need for classroom teachers who have a understanding of guidance and develop a positive attitude towards guidance services (Demir & Can, 2015; Kepçeoğlu, 2004), and students (Eyo, Joshua and Esuong, 201under0) and parents (Gysbers, 2013; Walter, 2008) with high level of awareness for guidance services. In some studies which were conducted with the purpose of evaluating the impact of guidance services, it is seen as a critical problem that teachers, school managers and parents do not have adequate levels of awareness for guidance services (Apaydin & Çakir, 2016; Güven, 2009; Hatunoğlu & Hatunoğlu, 2006; Nazlı, 2007; Parmaksız & Gök, 2018; Yeşilyaprak, 2009). In a similar line, students who develop positive attitudes towards these services and have guidance awareness is evaluated as an essential element which affects the efficiency obtained from provided services (Eyo, Joshua, & Esuong, 2010; Karataş & Şahin-Baltacı, 2013; Meşeci, Dinçer, & Çırakoğlu, 2006; Turan, 2009).

Certain studies carried out to evaluate the perceptions of students about school guidance services reveal results that the students' perceptions towards these services differ according to various variables. (Aydın, 2019; Meşeci et al., 2006; Yüksel Şahin, 2008). In the studies carried out for this purpose, the results reveal that some students have negative perceptions about guidance services (Karataş & Şahin-Baltacı, 2013; Karataş & Sönmez, 2019; Nas, 2019). In his study, Oran (2013) concluded that although students perceive the guidance services as a necessity, their level of awareness about these services is low. Evaluated from this perspective, studies aiming to increase the awareness levels of students for guidance services gain significance (Gysbers & Henderson, 2012; Hatunoğlu & Hatunoğlu, 2006; Karataş & Sönmez, 2019; Lasode, Lawal, & Ofodile, 2017).

Students who believe in the necessity of school guidance services for their personal development and students who develop a positive attitude and understanding towards guidance services benefit from these services more effectively (Eyo et al., 2010). In order for students to benefit from school guidance services at the highest level, they need to know about the objectives and functions of school guidance services (Meşeci et al., 2006). The high level of awareness of students about school guidance services is seen as an important factor that increases the impact of these services (Gysbers & Henderson, 2012; Ibu & Maliki, 2010; Lasode et al., 2017; Mwangi & Otanga, 2015). In addition, it is believed that there is an important relationship between students' awareness of school guidance services and their utmost use of educational opportunities. In his study, Tambawal (2011) determined that there is a significant relationship between students' level of awareness about guidance and counselling services and their study habits, positive attitudes towards school and learning, and academic performance. Similarly, in his study, Nina (2009) detected findings that students with low level of guidance awareness experienced more academic stress.

Students use these services more intensively and effectively as their level of awareness about school guidance services increases (Gallant & Zhao, 2011; Hyun, Quinn, Madon, & Lustig, 2007). Yüksel Şahin (2008) states that students can be ready to receive help in personal, social, educational and professional matters as long as their needs to receive reliable and correct information about school guidance services are met. According to Gysbers and Henderson (2012), conducting informative activities on the services provided is a significant factor in the success of guidance and counselling programmes. Similarly, students' attitudes towards school guidance services are significantly affected by their level of awareness about these services (Eyo et al., 2010; Mwangi & Otanga, 2015). In this context, to develop measurement tools to determine the awareness levels of students about school guidance services and to carry out studies to increase their awareness by determining their level of awareness gain significance (Eyo et al., 2010; Ibu & Maliki, 2010; Lasode et al., 2017).

The Need for Developing School Guidance Services Awareness Scale

School guidance services in Turkey is an area of service which aims at raising healthy individuals who know themselves, assess the educational and professional opportunities provided to them, can take responsibility; it also supports the efforts of individuals towards self-realisation. These services are carried out in a certain programme in cooperation with teachers and school administrators under the coordination of school counsellors in line with the developmental guidance approach (Ministry of National Education, 2017a). Two general goals are set for each academic year based on the planning of guidance services provided by the Ministry of National Education in all public and private schools across the country (Ministry of National Education, 2018). One of the general objectives for the 2019–2020 academic year has been identified as "promoting school guidance services". Within the scope of this general objective, increasing the awareness of students about school guidance services is targeted (Ministry of National

Education, 2019). It can be stated that there is a need for scientific studies to obtain reliable data in this direction and to increase the awareness levels of students about school guidance services. With regard to the scientific studies conducted in Turkey, the analysis of students' perceptions of guidance services and their views about the guidance services in schools are important in terms of increasing the impact of guidance services (Karataş & Sönmez, 2019; Karataş & Şahin-Baltacı, 2013; Meşeci et al., 2006; Nas, 2019; Yalçın, Yılmaz, & Karakaya, 2017). Similarly, Yüksel Şahin (2008) revealed in her study that as students' awareness levels about school guidance services increased, their assessment of guidance services improved positively.

Although studies on determining the awareness levels of students about school guidance services and increasing their awareness levels are considered important, it can be stated that there is a limited number of studies in the literature. In addition, as a result of the literature review, no measurement tool was found to determine the awareness levels of Turkish adolescent students towards school guidance services. Current studies focus more on determining the perceptions, understanding and attitudes of teachers and school administrators regarding guidance services (Avcı, Çeçen Eroğul, & Umut Zeybek, 2017; Bülbül, 2009; Demir & Can, 2015; Işıkgöz, 2017; Öztemel, 2000). In a limited number of studies conducted with students, the perceptions and opinions of students about guidance and counselling services were analysed by using questionnaires, interview and information forms (Aydın, 2019; Karataş & Şahin-Baltacı, 2013; Karataş & Sönmez, 2019; Meşeci et al., 2006; Nas, 2019; Oran, 2013; Yalçın et al., 2017; Yüksel Şahin, 2008).

In this context, the development of a measurement tool to determine the awareness levels of Turkish adolescents regarding school guidance services is considered as an important need in the field. In this context, the aim of this study is to develop a scale to determine the awareness levels of high school students for school guidance services and to present the preliminary psychometric features of the scale.

Materials and Methods

This study is a scale development study that employs survey model. The scale development process was carried out in 3 stages. The stages of the scale development process are presented in Fig. 1.

In the first stage, the literature review was conducted in order to provide the conceptual basis for the scale items, essay assignments were given to the students, focus group discussions were conducted and the qualitative data obtained were analyzed. The content validity index of the item pool created for the scale was measured, and the content validity of the scale was evaluated through a pilot study. In the second stage, Exploratory Factor Analysis (EFA) was performed to reveal the structure of the scale. In this process, validity and reliability analyses of the scale were carried out. In the third stage, Confirmatory Factor Analysis (CFA) was performed to test the fit of the model that emerged after the EFA findings. The stages of the scale development process and the demographic features of the students in the study group are presented below.

Participants

Within the scope of the research, two different study groups were formed with the convenience sampling method considering the accessability, economy and convenience. The first study group formed to identify the construct validity of the scale and to perform reliability analysis consisted of 250 high school students between the ages of 14–19 (M = 16.73; SD = 1.24) studying in 3 different public schools in Ankara (Turkey). The distribution of the students in the group by sex, grade and type of school is presented in Table 1.

As Table 1 reveals, 57.2% of the students are female and 42.8% are male. A total of 26.8% of the students are in the 9th grade, 28% are in the 10th grade, 28.8% are in the 11th grade and 16.4% are in the 12th grade. Furthermore, 44.4% of the students study in Anatolian high school, 34.8% vocational and technical Anatolian high school and 20.8% study in Anatolian vocational religious high school.

The second study group formed to evaluate the construct validity of the scale and to perform confirmatory factor analysis consisted of 399 students between the ages of 14–19 (M = 16.41; SD = 1.18) who continue their education in 6 different public high schools. The distribution of the students in the group by sex, grade and type of school is presented in Table 2.

As Table 2 reveals, 65.9% of the students are female and 34.1% are male. A total of 29.6% of the students are in the 9th grade, 28.8% are in the 10th grade, 29.8% are in the 11th grade and 11.8% are in the 12th grade. Furthermore, 15% of the students study in science high school, 22.1% study in Anatolian high school, 35.6% vocational and technical Anatolian high school and 27.3% study in Anatolian vocational religious high school. Anatolian high schools and science high schools are secondary education institutions providing academic education to students, vocational and technical Anatolian high schools provide students with vocational training. Anatolian vocational religious high schools provide students with necessary knowledge and skills to perform religious services (Ministry of National Education, 2017b).

Data Collection Tool

Studies for determining the scale items and testing the content validity were carried out in 5 stages. Both inductive and deductive approaches were employed in this process. The steps

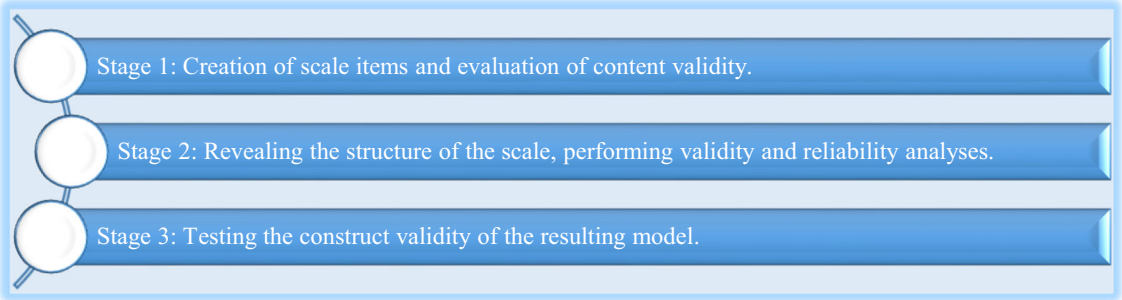

Fig. 1 Scale development process

for determining the scale items and ensuring the content validity are given in Fig. 2.

As Fig. 2 reveals, at the first stage literature review on school guidance services was conducted and the indicators of awareness for school guidance services were investigated. During the process, a literature review was conducted for school guidance and counselling services, developmental guidance, understanding and purpose of guidance, basic principles of guidance and misunderstandings about guidance. The literature review on the subject reveals that a scale that is directly related to the subjects does not exist. In studies carried out in the world, especially in Africa, awareness of guidance services has been discussed within the scope of knowing the school counsellor and knowing the location of the school counselling department. In Turkey, the studies concentrate on the use of guidance and counselling services and determination of students' perception, attitude and needs for these services. In the process of creating the item pool for the scale, the relevant literature was used. Information on these studies is presented in Table 3.

As Table 3 reveals, it can be stated that the studies with school administrators, teachers and school counsellors focus on perception, attitude, understanding, views and beliefs about guidance services. In studies conducted with students, it is revealed that the mostly analysed subjects are perceptions and views of students about guidance services.

At the second stage, using convenience sampling method a group with a total of 24 students was formed. These participants were identified to determine qualitatively, the perception and awareness levels of students about school guidance services during the formation of item pool. Consisting of 24 students, this group was formed with 3 students from each grade level (grades 9, 10, 11 and 12) from 2 different high schools, one of which is academic and the other is vocational high school. Participants were identified to consist of students with high, medium and low academic achievement and 3 students from each grade level were selected. The students in the group was asked to write an essay on school guidance services. In the essays, the appropriate expressions of the students regarding school guidance services were selected and arranged for the purpose of the scale. The essays written by the students about school guidance services were analysed by using content analysis and descriptive analysis, among the qualitative data analysis methods, and efforts were made to determine what items might be related to school guidance services awareness.

In the third stage, a focus group interview was held with 8 school counsellors (4 females, 4 males) determined by the

Table 1 Information about the participants determined to identify the construct validity of the scale and to perform reliability analysis

Demographic features		N	%
Sex	Female	143	57.2
	Male	107	42.8
	Total	250	100
Grade level	9th Grade	67	26.8
	10th Grade	70	28
	11th Grade	72	28.8
	12th Grade	41	16.4
	Total	250	100
School type	Anatolian High School	111	44.4
	Vocational and Technical Anatolian High School	87	34.8
	Anatolian Vocational Religious High School	52	20.8
	Total	250	100

Table 2 Information about the participants determined to evaluate the construct validity of the scale

Demographic features		N	%
Sex	Female	263	65.9
	Male	136	34.1
	Total	399	100
Grade level	9th Grade	118	29.6
	10th Grade	115	28.8
	11th Grade	119	29.8
	12th Grade	47	11.8
	Total	399	100
School type	Science High School	60	15
	Anatolian High School	88	22.1
	Vocational and Technical Anatolian High School	142	35.6
	Anatolian Vocational Religious High School	109	27.3
	Total	399	100

snowball sampling method. In the focus group meeting, the participants were asked open-ended questions such as "What is the purpose of guidance and counselling services? What is the concept of developmental guidance? What are the basic principles in guidance and counselling services? What are the false beliefs in guidance and counselling services?" The interviews were recorded using a voice recorder with the permission of the participants. The interviews recorded by the researchers were transcribed and analysed by content analysis method, which is one of the qualitative data analysis methods. In this process, the transcribed data was coded and themes and categories were formed. Then, the identified themes and categories were confirmed by 3 school counsellors. The reliability formula proposed by Miles and Huberman (2016) was employed to determine the internal consistency regarding the themes and categories and to reveal the consensus among the coders, and the reliability value was calculated as .90.

In the fourth stage, a 5-point Likert-type draft scale form consisting of 38 items was created in line with the data obtained through the literature review, student essays and school counsellors focus group interview, and studies were carried out to determine the content validity in line with expert opinions. In order to ensure the content validity of the scale, views from experts were obtained from 8 faculty members from 3 different universities (6 experts from the department of guidance and psychological counselling, 1 from the department of curriculum and instruction and 1 from the department of assessment and evaluation). In order to obtain expert opinions, for the selection of 8 academics, 5 of which are women and 3 of which are men, efforts were made to include academicians who have at least 10 years of professional experience, particularly in school-based studies and academic publications related to school guidance services. Lawshe's (1975) content validity technique was employed for the content validity studies during this process. Every item in the draft scale form was evaluated according to its feature to measure the awareness level of students for guidance services. To this end the experts' views for each item was collected and "Content Validity Ratio" (CVR) was calculated. The statistical significance of CVR was compared with Lawshe's (1975) and Ayre and Scally's (2014) criterion for content validity ($N = 8$, CVR Critical Exact Values: 0,75) at a level of $\alpha = 0{,}05$ significance.

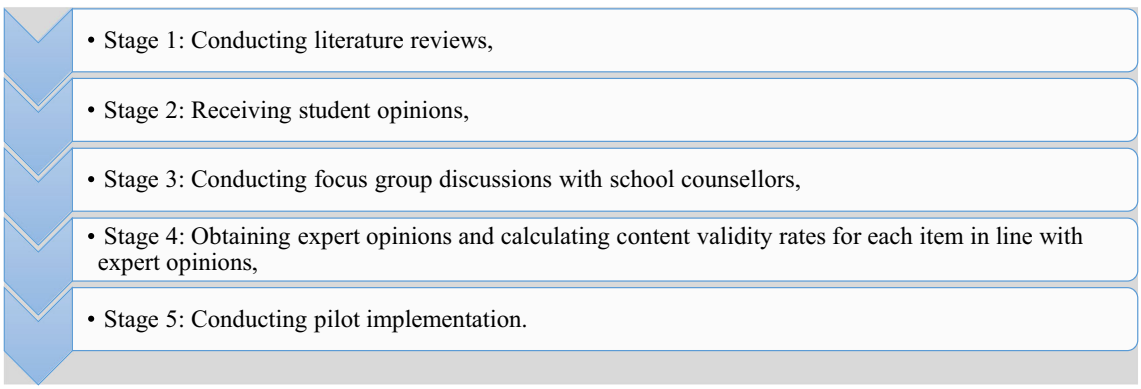

Fig. 2 Determination of scale items and content validity studies

Table 3 Sources used in creating the item pool for the scale

Study	Objective	Population	Method	Data Collection Tools
Avcı et al., 2017	Identifying the myths (false beliefs) about guidance and counselling services	Teachers and teacher candidates	Quantitative study	Scale
Demir & Can, 2015	Analysis of teachers' understanding and attitudes towards guidance and counselling services	Teachers	Quantitative study	Scale
Karataş & Şahin-Baltacı, 2013	Analysis of perceptions and views on guidance services	School managers, teachers, school counsellors and students	Qualitative study	Interview Form
Meşeci et al., 2006	Analysis of perceptions about guidance services	Secondary school and high school students	Quantitative study	Questionnaire form
Öztemel, 2000	Evaluation of understanding of guidance	Teachers	Quantitative study	Scale
Yalçın et al., 2017	Investigation of metaphoric perceptions about guidance services	High school teachers	Qualitative study	Interview Form
Yüksel Şahin, 2008	Evaluation of views on guidance and counselling services	High school teachers	Quantitative study	Scale

One item with a CVR value below 0,75 was excluded from the form and minor changes were made on three other items. As a result of the content validity studies, the content validity index of the 5-point Likert-type scale form, which consists of 37 items, was calculated as 0.85.

In the fifth stage of the study, a pilot implementation of the scale was carried out in order to test the scale in real settings and to test the understandability of the statements in the scale. The scale was administered to a group of 12 students that consists of 3 students randomly selected from each grade level. As a result of the pilot implementation, the 37-item draft scale was prepared to perform construct validity and reliability analyses.

Data Collection and Analysis

Data was collected from two different study groups in order to perform validity and reliability analyses of the scale. The data in the first group was collected from 250 high school students studying in 3 different public schools in order to calculate the validity and reliability analyses of the 37-item draft scale form formed as a result of content validity analyses. The data in the second group was collected from 399 high school students studying in 6 different public schools in order to evaluate the construct validity of the model resulting from validity and reliability analyses and to perform confirmatory factor analysis. In this process, necessary permits for the implementation were obtained from the Ministry of National Education and the pilot exercise was carried with students on a volunteer basis. Informed consent was taken from all the participants after briefing them about the purpose of the study. In addition, necessary information was provided on how the data collected from students would be used within the scope of confidentiality and how the data would be protected. The scale instructions were read to the students by the researchers and the aims of the study were indicated. The data obtained as a result of the implementation process was made ready for analysis in accordance with the purpose of the research. Statistical analysis methods were employed in the analysis of scale data. In this process, SPSS 22.0 and LISREL 8.8 software were used.

Results

Exploratory Factor Analysis (EFA)

In order to determine the construct validity of the scale, EFA was performed in line with the data collected from 250 students. The main purpose of factor analysis is to determine the variability and the number and quality of the factors that create the variability between a set of observed criteria, known as hidden indicators or commonly known as indicators (Brown, 2006). Prior to performing EFA, missing values, sample size, normality, linearity, multiple connections, singularity and extreme values were analysed. As a result of the analysis, it was seen that there was no missing data. In order to analyse univariate extreme values, minimum and maximum values were analysed. In order to analyse multivariate extreme values, the total score was obtained and the total score obtained was converted to the Z standard score and the data outside the values of +3 and − 3 were excluded from the analysis. The analysis was continued in line with the data obtained from the remaining 249 participants.

Kaiser-Meyer-Olkin (KMO) test coefficient was calculated and Barlett Sphericity test was performed to determine the suitability of the data for EFA. KMO criterion; is the ratio of the total correlation values of the variables to the sum of squares and the sum and partial correlation values to the sum of squares. As this ratio approaches 1, it is expressed that the correlation pattern in the R-matrix is tight, and as it

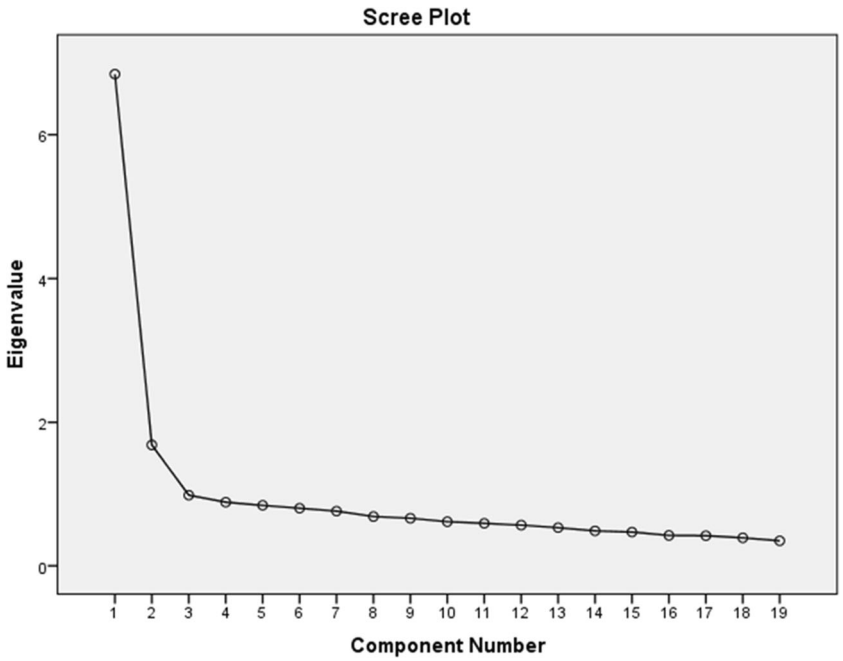

Fig. 3 Line graph for the factor Eigenvalues

approaches 0, there is a spread in the pattern (Field, 2005). It is desired to have a tight correlation pattern between variables. Kaiser (1974) stated 0.5 as an almost acceptable cut-off point for this criterion, stated and classified that a KMO value between 0.5–07 was mediocre, a value between 0.7–0.8 was good, a value between 0.8–0.9 was very good and a value above 0.9 was excellent. Bartlett's sphericity test is used to test whether the correlation matrix is a unit matrix or not. If the unit matrix hypothesis is accepted, the use of factor analysis will not be appropriate since the variables will be unrelated with each other. For this, the calculated *p* value must be less than 0.05. Values greater than 0.1 mean that the data is not suitable for factor analysis (Tabachnick & Fidell, 2001). KMO coefficient values was calculated as .88 and Barlett Sphericity test was calculated significant at the level of .01 [$\chi 2 = 3607$; df = 666; p=,000]. These findings reveal that the data is of multivariate normal distribution and that the data structure is suitable for factor analysis (Çokluk, Şekercioğlu, & Büyüköztürk, 2018).

Principal Component Analysis (PCA) was chosen as the factor analysis method in the study. PCA was preferred because it is a multivariate statistical method that aims to reach meaningful conceptual structures by reducing variables, and it is the most frequently used method which is relatively easier to interpret (Büyüköztürk, 2013; Kline, 2005). Factor analysis was performed to reveal the factor structure of the scale. Before using the rotation method, correlations between factors were examined in order to determine which type of rotation to choose, and the vertical rotation method and varimax technique, which is a frequently preferred method in social sciences research, were used as the rotation type because there was no relationship between the factors. As the Kaiser-Guttman rule, only factors having eigenvalues of one or above are considered as stable (Brown, 2006), at the preliminary analysis performed, 8 factors were identified with eigenvalue of above 1. However, when evaluated together with Scree Plot, it was seen that the graph followed a horizontal course after the second factor. Line Graph for the Factor Eigenvalues obtained according to the conducted factor analysis is presented in Fig. 3.

More than one criterion is usually taken into account when deciding on the number of factors (Hair, Anderson, Tatham, & Black, 1995). Some of these methods are Kaiser-Guttman criterion (eigenvalues ≥1), total variance amount explained and scree plot test. The scale was determined in two dimensions in order to increase the variance rate explained in the factor extraction process, to identify the factors with an eigenvalue greater than 1, to ensure conformity in the line graph of the eigenvalues and to adhere to the theoretical structure of the scale. After the number of factors of the scale was identified, the distribution of items to factors was examined. In order to determine to which factor the items have a strong correlation, the rotated component matrix has been created and examined whether the items meet the acceptance level of overlapping and factor load values. After the analysis was repeated, the overlapping items with a difference less than .20 between their item-load values (Nunnally & Bernstein, 1994) and items with a factor load value below .50 were identified. In factor analysis, items with a factor load value of,30 and above were considered sufficient (Brown, 2006); and items with a factor load value of,45 and above is considered representing a good selection criteria (Büyüköztürk, 2013). As a result of the analyses carried out on the draft scale form consisting of 37 items, 16 items with factor load value below .50 and having overlapping values

Table 4 Factor load values of the items in the scale

Item no	New item no	Factor load value		Item total correlation	t	p
		1	2			
M28	M1	.791		.639	13.00	.000
M15	M2	.764		.584	10.88	.000
M17	M3	.743		.554	14.68	.000
M29	M4	.730		.545	10.72	.000
M24	M5	.715		.512	12.73	.000
M22	M6	.712		.547	9.87	.000
M18	M7	.700		.490	11.09	.000
M25	M8	.690		.493	9.89	.000
M27	M9	.669		.456	9.69	.000
M26	M10	.623		.393	9.66	.000
M8	M11	.613		.387	9.77	.000
M12	M12	.591		.358	8.08	.000
M33	M13	.576		.371	10.34	.000
M35	M14	.549		.302	7.04	.000
M32	M15	.529		.281	8.71	.000
M20	M16		.618	.383	2.64	.009
M16	M17		.617	.392	1.03	.305
M19	M18		.583	.445	−1.45	.148
M34	M19		.575	.385	4.89	.000
M4	M20		.569	.369	4.91	.000
M30	M21		.528	.296	.72	.473

were removed from the scale, and the scale was given its final form which consisted of 2 factors and 21 items.

According to the analysis performed on the 2-factor structure of the scale, the KMO value increased to .90. Barlett's sphericity test revealed that multivariate normality was achieved ($p < .01$). The 2-factor structure of the scale consisting of 21 items explains 43,72 of the total variance. The first factor explained 33.25% and the second factor explained 10.47%. Factor load values of the items are presented in Table 4.

As Table 4 reveals, there are 15 items in the first factor and 6 items in the second factor. Factor load values of items vary between .528 and .791. Scree Plot of the final version of the scale is presented in Fig. 4.

The 2-factor structure of the scale is also evident from the line graph of eigenvalues in Fig. 4. In the graph, the high

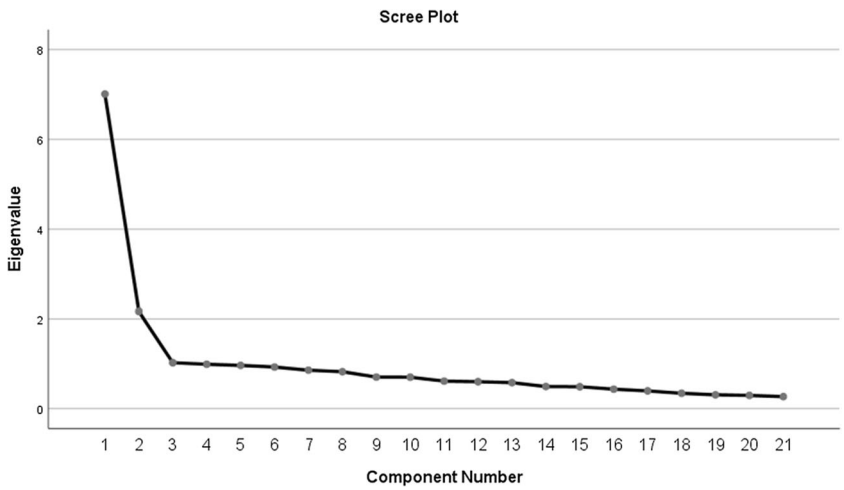

Fig. 4 Scree plot of the final version of the scale

acceleration decrease after the first factor, the continuation of this rapid decrease in factor 2 and the line graph taking a horizontal course after the 2nd factor indicates the 2-factor structure of the scale. Taking the literature review into consideration, the 1st facto of the scale was named as "The Awareness of the Necessity for School Guidance Services" and the 2nd factor was named as "The Awareness for Understanding of Guidance". In the dimension of the scale on the necessity of the guidance services, statements such as "*Guidance services are an integral part of the education; Guidance services contribute to increase students' motivation to reach their goals"* were included. In the dimension of awareness on the understanding of guidance statements such as "*Only problematic students benefit from guidance services; When I need to make an important decision about my future, it is more effective for the guidance teacher to make that decision for me*" were included and these statements were reversely scored.

In the scope of item analysis of the scale, item analysis of 21 items which were determined by factor analysis and which formed the two dimensions was also analysed. Item total correlations ranged between r = .281 and r = .639 for the first dimension and r = .296 and r = .445 for the second dimension. According to Büyüköztürk (2013) and Tavşancıl (2014), the item total correlation of items with .30 and higher differentiates individuals in terms of the measured feature, items between .20 and .30 can be analysed in terms of other features and can be kept in the scale and the item below .20 should be excluded from the scale. Correlation values of items 32 and 30 were below .30, and factor load values were above .50 and thus they were not excluded from the scale. The differences between the item mean scores of the upper 27% and lower 27% groups that were formed according to the total scores of the test were tested employing the independent samples t-test. According to the t-test results for upper and lower groups, no significant difference for items 16, 19 and 30 were identified, while other items revealed significant differences in favour of the upper group. The items were not excluded from the scale since the factor load values and the Scree plot revealed the structure well.

Finally, Cronbach Alpha internal consistency coefficient was calculated to identify the reliability of the scale. In general, a reliability coefficient of .70 or higher for a scale is considered sufficient (Büyüköztürk, 2013; Cortina, 1993; Nunnally & Bernstein, 1994). The Cronbach Alpha internal consistency coefficient of the scale that consists of 21 items and two sub-dimensions was calculated as .84. Cronbach's α reliability coefficients of the overall scale and its sub-dimensions are presented in Table 5.

As Table 5 reveals, the α reliability coefficient (.84) obtained from the overall scale shows that the reliability is high. The reliability coefficients obtained from the sub-dimensions of the scale are .91 and .62. While the reliability is high for the first dimension, it is lower for the second dimension. The low number of items in the second dimension can be considered as one of the reasons of this situation. According to Kayış (2016) and Salkind (2014) if the Cronbach's Alpha coefficient of the scale is between .60 and .80 it shows that the scale is considerably reliable, and if it is .80 or above, it is considered as highly reliable. When evaluated from this perspective, it can be stated that the scale is highly reliable overall and for the first dimension, and it is within the reliability limits for the second dimension.

Confirmatory Factor Analysis (CFA)

CFA was performed on data collected from 399 high school students in order to evaluate the construct validity of the model resulting from the EFA.CFA expresses the basis of the structural equation model (Brown & Moore, 2012). CFA is an analysis method used to examine whether a previously defined and limited structure is validated as a model (Brown, 2006; Çokluk et al., 2018) and to test the construct validity of psychological assessments (Lewis, 2017). CFA's assumptions can be listed as sample size, missing values, normality, linearity, multiple connections and singularity and extreme values. First of all, 3 data, which had extreme values, were excluded from the data set and the analysis continued with the data of 396 people. Comrey and Lee (1992) consider this number as a quite sufficient sample size. Another criterion is the results of the KMO test. KMO results calculated within the scope of the study are presented in Table 6.

According to Leech, Barrett, and Morgan (2005), having KMO value of .90 and above indicates that the sample size is perfect. In order to test the normality assumption, total points were obtained from each scale item, Kolmogorov-Smirnov test was calculated, and skewness values were examined. The scale shows normal distribution according to the Kolmogorov-Smirnov test results ($p > .05$). In addition, the skewness values are between −1 and + 1. In this case, it is concluded that the scores obtained from the scale are normally distributed. Tabachnick and Fidell (2001) suggest using the assumption that there is a lot of variability when trying to

Table 5 Cronbach's α reliability coefficients of the overall scale and its sub-dimensions

	Scale total	Factor 1	Factor 2
α	.84	.91	.62

Table 6 KMO values calculated for the scale

KMO	p
.90	.000

determine or confirm the number of factors. In this research, this assumption was used. After testing the assumptions, work continued with the CFA process. Maximum likelihood statistic was used as a prediction method in CFA. It is preferred because it is one of the most commonly used predicition methods in data sets where maximum likelihood data is

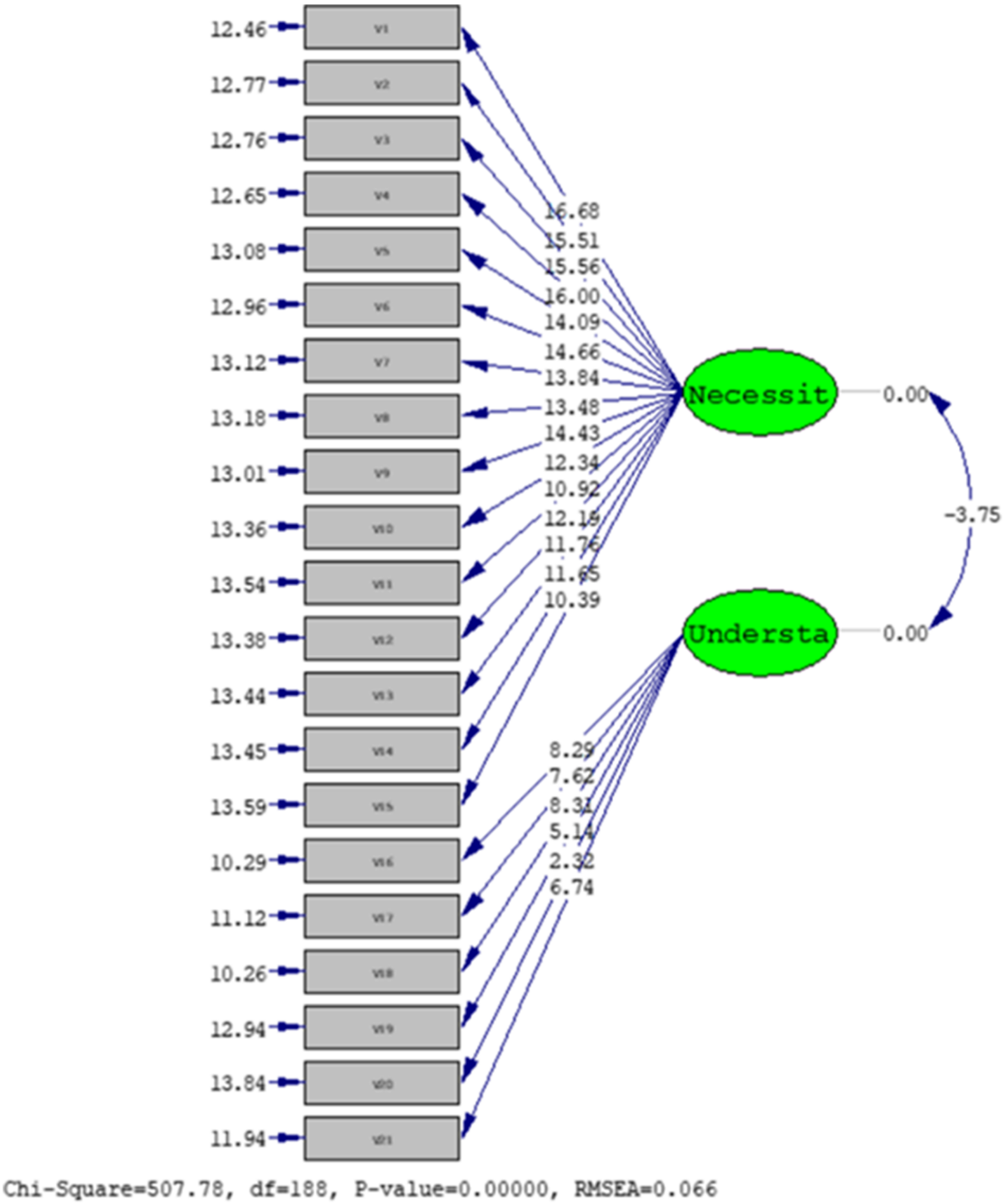

Fig. 5 CFA t values

normally distributed (SAS Institute Inc, 2009). The t values obtained as a result of the performed CFA are presented in Fig. 5.

First, t values are examined in CFA. T value exceeding 1.96 indicates significance at .05 level; t value above 2.56 shows that it is significant at .01 level (Çokluk et al., 2018).

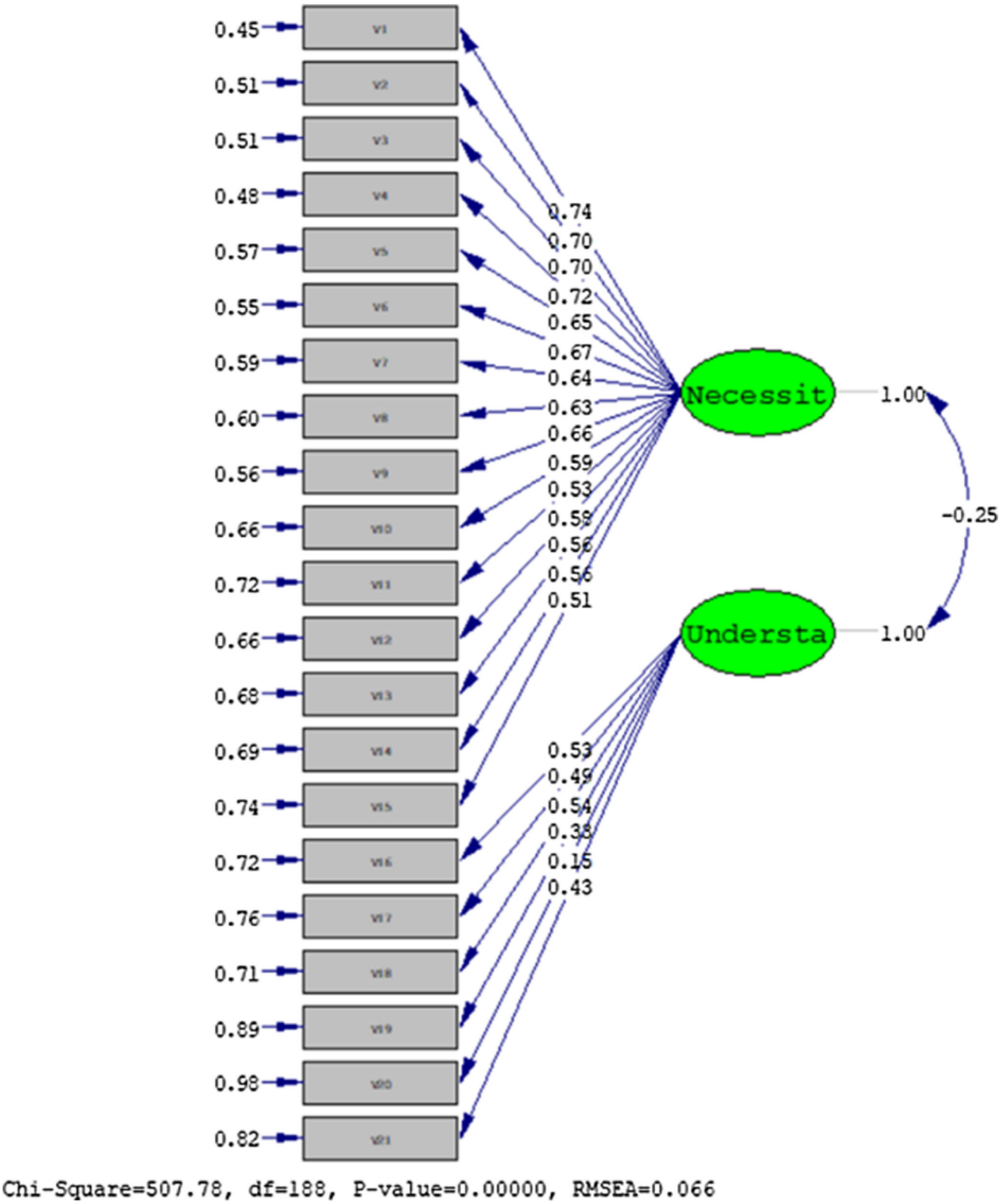

Fig. 6 CFA standardized solution results

According to the T values, all items are significant at the .05 level. This suggests that latent variables accurately explain the observed variables. Then standardized solution values were examined. These values are presented in Fig. 6.

The values to the left of the items in Fig. 6 reveal error variances. Here, except for the 20th item, the error variances of all items can be considered low. Values range from .45 to .98. It can be stated that, according to the T values, the errors of all items are low, except for the 20th item according to the standard solution values. It is also necessary to examine goodness of fit indices in DFA, and data on goodness of fit values are presented in Table 7.

When Table 7 is anlaysed, it is seen that the fit values of the items in the scale are located to the left of the table and the criteria taken are in the two columns to the right of the table. $\chi 2$ was found to be significant at .01 level. This means that there is no fit. However, as sample size grows, $\chi 2$ can appear as significant. According to Kline (2005), in large samples, the $\chi 2/df$ value below 5 corresponds to mediocre fit, and below 3 corresponds to excellent fit. As a result of the analysis performed, it was identified as $\chi 2/df = 2.70$ and it was seen that it is an excellent fit. Similarly, CFI and NNFI show perfect fit. RMSEA, SRMR, AGFI and NFI show good fit. GFI was just below good fit (.89). GFI is significantly affected by sample size (Kline, 2005). According to Hu and Bentler (1999), GFI is one of the most sensitive fit criteria for sample size. However, according to Doll, Weidong, and Gholamreza (1994), in several studies, the values in the range of .80–.89 are considered acceptable for GFI. Anderson and Gerbing (1984) and Marsh, Balla, and McDonald (1988) describe the GFI value as 0.85 and above as an indicator of acceptable fit. It is also stated that GFI is not the only goodness-of-fit index and should be evaluated together with other goodness of fit indices (Çapık, 2014). When evaluated as a whole, it can be stated that the scale reveals a good fit.

Discussion and Conclusion

In this study, a scale consisting of 21 items and 2 subdimensions was developed to determine the high school students' awareness levels for school guidance services. The scale was developed based on the understanding of developmental guidance. In order to determine whether the measuring tool has construct validity, EFA and then CFA were performed. As a result of the EFA, the scale was found to be gathered under 2 factors with eigenvalues greater than 1. The 2-factor structure of the scale explains 43,72 of the total variance. CFA was performed to evaluate the construct validity of the two-factor model that emerged after EFA. The fit values obtained as a result of the analysis performed revealed the goodness of fit of the two-factor structure revealed by exploratory factor analysis. Creswell (2014) suggests determining Cronbach's alpha statistics in reliability controls for the internal consistency of the scale. The Cronbach alpha reliability coefficient of the scale was calculated as .84. All these findings indicate that the scale can be used as a highly valid and reliable scale in order to measure students' awareness for school guidance services. SGSAS is a 5-point Likert Scale and scored from 5 points "I totally agree" to 1 "I totally disagree". As the scores obtained from the scale approached 5, it can be stated that the awareness levels of the students for school guidance services increase positively.

School Guidance Services Awareness Scale (SGSAS) is a measurement tool that aims to measure students' awareness for school guidance services with regard to the dimensions of the necessity of guidance services and understanding of

Table 7 Scale Goodness of fit values for CFA results

Indices	Item-related values	Perfect fit	Goodness of fit
χ^2	507.78		
sd	188		
p	0.0		
χ^2/sd	2.70	$\chi^2/sd \leq 3.00$	$3.00 < \chi^2/sd \leq 8.00$
RMSEA	0.066	$0 \leq RMSEA \leq .05$	$.05 < RMSEA \leq .08$
RMSEA (.90 GA)	0.059–0.073		
SRMR	0.076	$0 \leq SRMR \leq .05$	$.05 < SRMR \leq .10$
GFI	0.89	$.95 \leq GFI \leq 1.00$	$.90 \leq GFI < .95$
AGFI	0.87	$.90 \leq AGFI \leq 1.00$	$.85 \leq AGFI < .90$
CFI	0.96	$.97 \leq CFI \leq 1.00$	$.95 \leq CFI < .97$
NFI	0.93	$.95 \leq NFI \leq 1.00$	$.90 \leq NFI < .95$
NNFI	0.95	$.97 \leq NNFI \leq 1.00$	$.95 \leq NNFI < .97$

(Brown, 2006; Hooper, Coughlan, & Mullen, 2008; Hu & Bentler, 1995; Jöreskog & Sörbom, 1993; Steiger, 2007; Tabachnick & Fidell, 2001; Thompson, 2004)

guidance. Students' belief in the necessity of guidance services and having a sufficient level of understanding for guidance are seen as two important factors that determine the impact of guidance services (Karataş & Şahin-Baltacı, 2013; Meşeci et al., 2006; Turan, 2009). In the awareness subdimension of the scale regarding the necessity of guidance services, there are items to determine whether students see these services as a need or not. It is of great importance that students develop a positive attitude towards the necessity of guidance services in order to obtain the expected efficiency from guidance services (Eyo et al., 2010; Meşeci et al., 2006). Lower levels of awareness and indifference of students about the necessity of guidance services emerges as a factor that reduces the impact of these services (Tagay & Savi Çakar, 2017). In the guidance and counselling services, where voluntary participation is accepted as one of the basic principles in the provision of services (Kuzgun, 2009; Yeşilyaprak, 2019), students' beliefs regarding the necessity of these services are considered important in terms of determining their level of awareness in school guidance services. In the awareness sub-dimension of the scale's guidance understanding, there are items to determine how students perceive guidance services and their perspectives on these services. Determining students' perceptions about guidance services is important for shaping guidance services (Aydın, 2019). Lower levels of understanding for guidance services is a factor that significantly reduces the success of guidance services (Tagay & Savi Çakar, 2017). In their study, Karataş and Şahin-Baltacı (2013) concluded that false beliefs about school guidance services significantly affect the impact of the services. In his qualitative study, where he evaluated the perceptions of high school students about guidance services using the metaphor method, Nas (2019) concluded that students' perceptions of guidance services and their perspectives on these services differ. For this reason, the analysis of the differences in the levels of students' understanding of guidance services is considered important to determine students' level of awareness for school guidance services.

It is considered that SGSAS will contribute to the researchers who seek to examine the awareness levels of students regarding school guidance services. Furthermore, students' awareness of school guidance services prior to the implementation of school guidance and counselling programmes can be determined with the assistance of this scale. Whether students' level of awareness about school guidance services differs according to sex, grade levels, school types and socioeconomic levels can be analysed. As a result of these studies, different curricula can be implemented for students with lower levels of awareness of school guidance services. The literature suggests that studies should be conducted to increase students' awareness of school guidance services (Gallant & Zhao, 2011; Gysbers & Henderson, 2012; Yüksel Şahin, 2008). SGSAS aims to determine the level of awareness of high school students regarding school guidance services. It is also suggested that scales for student groups at different levels of development are developed and validity and reliability analyses are conducted. In this context, scales can be developed to determine also the teachers' and parents' levels of awareness for school guidance services. Moreover, this scale gains significance because it has been developed to analyse the students' awareness levels for school guidance services and it will contribute to identifying the deficiencies of the students in this regard. Therefore, it is suggested that the scale is supported by different studies that analyse students' attitudes towards school guidance services and their levels of use of these services.

Compliance with Ethical Standards

Conflict of Interest There is no conflict of interest.

Ethical Approval There is ethics approval.

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The datasets generated during and/or analysed during the current study are available from the corresponding author on reasonable request.