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Development of Teacher Support Scale for Secondary School Students (TSSSSS): A Validity and Reliability Study

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Abstract

In this study, a valid and reliable scale (TSSSSS) was aimed to develop to measure secondary school students' perceptions of teacher support. The research was carried out on a total of 773 students studying in 6 different secondary schools in Ankara's Yenimahalle district in the Spring Term of the 2021-2022 Academic Year. The students who participated in the research voluntarily were divided into four study groups. The first study group consisted of 7th and 8th grade students for the pre-application of the scale. The second study group and the third study group consisted of 5th, 6th, 7th, and 8th grade students to determine the structure of the scale and verify the structure of the scale. The fourth study group consisted of students studying in the 7th and 8th grades of the school where the pre-application was made for the reliability study of the scale. The application form of the scale, which was created based on the literature review, was submitted to expert opinion for content and face validity and rearranged in line with the recommendations of the experts. As a result of the pre-application, some statements in the scale were changed based on the students' opinions. A structure with 36 items and four factors was gained with EFA, which explained 66.56% of the total variance. The factors of the scale were categorized under the names of emotional support (10 items), instructional support (5 items), guidance and orientation support (12 items), and problem-solving support (9 items). The structure of the scale was confirmed by CFA. Reliability coefficients obtained by Cronbach Alpha, composite reliability, and the test-retest method were examined for the reliability of the measurements related to the dimensions of the TSSSSS, and it was found that the reliability was quite high. The analyses carried out to determine the distinctiveness of the items on the scale revealed that all of the items were distinctive. In addition, as a result of examining the Pearson product-moment correlation coefficients calculated for the sub-dimensions of the TSSSSS after the item analysis, it was determined that the compatibility and the correlation between the dimensions of the scale were high. Based on these findings, it can be said that TSSSSS is a valid and reliable scale that can be used to measure secondary school students' perceptions of teacher support.

Keywords: Secondary school students, Teacher support, Scale development

Introduction

In daily life, the stressful situation that one is exposed to can cause the person to experience physical, emotional, behavioral, and mental problems, as well as to contract a chronic disease (Özel & Bay Karabulut, 2018, p.48). Social support is among the protective factors that protect or buffer the individual from the physiological or psychological consequences of exposure to a stressful situation (Cassel, 1976). Social support can be viewed as the support that an individual can access from other individuals, groups, and the wider community through social ties (Lin, Ensel, Simeone, & Kuo, 1976). Social support is about having the perception or experience of being cared for, respected, and part of a mutually supportive social network (Taylor, 2011). It is thought that the social support that the individual receives from his family members, friends, or close circle will help him get through the stressful periods more easily. Studies have shown that social support is associated with stress (Wang, Cai, Qian, & Peng, 2014), depression (Alsubaie, Staind, Websterd, & Wadma, 2019; Scardera et al., 2020; Wang et al., 2014), and anxiety (Scardera et al., 2020). Social support improves the negative effects of burnout on individuals' health (Ruisoto et al., 2021), increases their self-esteem (Cui et al., 2021; Poudel, Gurung, & Khanal, 2020), benefits subjective and psychological well-being (Brajša-Žganec, Kaliterna-

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Lipovčan, & Hanzec, 2018; Poudel et al., 2020), and contributes to mental health (Cobo-Rendón, López-Angulo, Pérez-Villalobos, & Díaz-Mujica, 2020).
There are different views in the literature on the types of social support. Schaefer, Coyne, and Lazarus (1981, pp. 385-386) analyze social support under three headings: emotional support, tangible support, and informational support. Emotional support includes closeness and commitment, trusting and being trusted. Tangible support includes direct assistance or services (for example, giving money, goods, or gifts and caring for the needy or doing a chore for them, etc.). Informational support includes providing information and advice that can help a person. House (1981, cited in Tindle, 2012) argues that social support has dimensions of emotional concern (liking, love, empathy), instrumental aid (goods or services), information (about the environment), or appraisal (information relevant to self-evaluation). Concerning appraisal support, feedback, and validation, they include assurance that an individual is successful in a particular task, is valued, and is a respected person (Zhang, Chen, & Yuen, 2021). Veiel (1985) classifies social support types in the literature under two categories: psychological/instrumental support and crisis help/everyday support. This classification emphasizes the ways and purposes of social support. Everyday social support can be effective in the development of an individual's personality traits. On the other hand, crisis help aims to combat certain crises and stress factors and directly reduce their effects (Veiel, 1985).

Teacher Support
The school is one of the most important structures that enables students to socialize, interact with each other, and establish social networks. In the school context, administrators, teachers, peers, and school staff form parts of the student's social network. In terms of providing social support, it can be said that the most important part of the student's social network is the teachers. Teachers can provide social support to students in various dimensions such as emotional support, instrumental support and informational support. In the literature, the social support provided by the teacher is specifically expressed as teacher support. Teacher support is the value students see in their teachers and the degree of relationship they establish with them (Ryan & Patrick, 2001).

Hamre and Pianta (2007) mention three teacher supports under the Teaching Through Interactions (TTI) framework to conceptualize and measure classroom interactions between teachers and students: emotional supports, classroom organization, and instructional supports. Emotional support offered in the classroom is related to teachers' efforts to support students' social and emotional functioning in the classroom by positively facilitating teacher-student and student-student interactions (Pianta, Hamre, & Allen, 2012). Classroom organization is about organizing classes to support students' ability to regulate behavior and attention in the classroom so that they can make the most of learning opportunities (Hafen et al., 2015). Classroom organization includes teacher behavior management aimed at promoting positive behavior and preventing or ending undesirable behavior in the classroom (Pianta et al., 2012), productivity for students to best manage teaching time and routines so that they can make the most of learning opportunities, engaging students by providing engaging activities, instruction, centers, and materials, and using instructional learning formats to maximize learning ability (Hamre et al., 2013).

Instructional support includes teachers' development of students' conceptual and high-level thinking skills, providing feedback to students about their learning to make the most of teaching opportunities, and effective use of language for a social environment and knowledge transfer (La Paro, Pianta, & Stuhlman, 2004; Pianta et al., 2012). Skinner and Belmont (1993) used the model developed by Connell & Wellborn (1991) based on a motivational analysis of self-system functioning, which includes three basic psychological needs (competence, autonomy, and relatedness), while establishing the dimensions of teacher support. Connell & Wellborn (1991) argue that when individuals' psychological needs are met in particular cultural initiatives such as family, school, or work, participation occurs and manifests itself in emotion, behavior, and cognition. From this point of view, according to Skinner and Belmont (1993), three teacher behaviors that should encourage the fulfillment of children's basic psychological needs are structure, autonomy support, and involvement. These three behaviors can be summarized as follows: teachers ideally structure their classrooms to meet the student's need for competence, give the student the freedom to determine their behavior to meet the need for autonomy, and are involved with the student to meet the need for relatedness.

Teacher support, like social support, has effects on an individual's mental health (Wit, Karioja, Rye, & Shain, 2011) and subjective well-being (Suldo et al., 2009). Reddy, Rhodes, and Mulhall (2003) and Wit et al. (2011) found that teacher support was associated with students' self-esteem and depression, and as students' perceptions of teacher support increased, there was a decrease in depressive symptoms and an increase in self-esteem. The results of the study conducted by Conner, Miles, and Pope (2014) in academically successful high schools show that students who think their teachers care about them and who have confidants at school experience less academic anxiety, school stress, and internalization symptoms. Wang et al. (2014), on the other

hand, found that teacher support has a positive effect on student happiness and satisfaction. Teacher support is more specifically related to educational outcomes than social support, or can be more effective in achieving desired outcomes. Teacher support is positively associated with student motivation (Ryan & Patrick, 2001) and engagement (Skinner, Furrer, Marchan, & Kindermann, 2008; Strati, Schmidt, & Maier, 2017). Teacher support indirectly affects students' mathematics achievement (Yıldırım, 2012; Yıldırım & Yıldırım, 2019; Yu & Singh, 2018) and their interest in mathematics lessons (Yu & Singh, 2018) through students' math self-efficacy. Teacher support can be seen as an important factor in removing barriers to effective teaching, as it is negatively associated with school problems, inattention, and hyperactivity disorders (Tennant et al., 2014) and has a positive effect on peer conflict resolution (Wang et al., 2014).

Measuring Teacher Support

In the literature, some scales measure teacher support as a dimension of social support (Harter, 1985, 2012; Malecki, Demaray & Elliott, 2004; Yıldırım, 1997) or support from important people other than friends and family (Zimet, Dahlem, Zimet, & Farley, 1988). It is also possible to come across scales measuring teacher support in different contexts. The "Classroom Assessment Scoring System Tool" developed by Pianta, La Paro, and Hamre (2008) and the "Classroom Life Instrument" developed by Johnson, Johnson, and Anderson (1983) to measure teacher and student interaction have various dimensions of teacher support. On the other hand, there are also scales measuring general teacher support under similar concepts (McWhirter, 1996; Torsheim, Wold, & Samdal, 2000). Recently, it has been seen that scales measuring the support provided more specifically in some subjects rather than the support of the teacher have also been developed. For example, the "Career-Related Teacher Support Scale" was developed to measure the extent to which teachers support students' career development by Zhang et al. (2021). The "Student Experience Teacher Support Scale" was developed to determine the support that students who are exposed to aggression and bullying receive from their teachers if they tell their teachers about what they did to them (Nelson, Kendall, Burns, Schonert-Reichl, and Kane, 2019). Karabenick and Sharma (1994), on the other hand, developed the "Perceived Teacher Support of Questioning Scale" in order to reveal how teachers respond to other students as well as to themselves when their teachers are teaching or explaining something in the classroom.

Rationale and Purpose of the Research

In the school environment, students may need support in many ways, and teachers play an important role in providing this support. The literature review shows that teacher support can lead to some positive results in terms of education as well as protecting the physical and mental health of the student. Teacher support can help increase academic achievement, reduce disciplinary problems or peer bullying at school, and create suitable conditions for effective teaching. The main reason underlying the student's failure or negative behavior may be the lack of support they need. In this context, first of all, it is necessary to determine the areas that form the basis of the problem and need support. A teacher who is aware of the needs of his students can show a more understanding approach towards them when faced with a negative situation and can carry out studies to meet these needs.

Teacher support gains importance, especially at the secondary school level, which is the transition phase from childhood to adolescence. Because the adolescence period, where biological, social, and emotional changes are experienced rapidly, can be seen as a difficult process for many young people. During this period, young people show rapid physical development (Cenkseven, 2002), have a turbulent mood because they have not yet learned to control the effects of hormones, and react instinctively to the events around them because the connection between the emotional and intellectual parts of the brain is not fully formed (Jensen & Nutt, 2017). At the same time, during this period, students enter a more intense academic pace. Since the central exam or academic success will be effective in the transition to a higher education level, they need to work harder. Expectations and pressures of teachers, families, or the environment in this regard can cause stress on students (Deb, Strodl, & Sun, 2015; Reddy, Menon, & Thattil, 2018; Seçer & Gençdoğan, 2012). High academic stress is associated with psychological problems such as depression, anxiety, and burnout experienced by students (Deb et al., 2015; Fariborz, Hadi, & Ali, 2019; Zhang et al., 2022). However, ongoing stress related to education has negative effects on students' learning capacity, academic success, and physical and mental health (Pascoe, Hetrick, & Parker, 2020). In this case, depending on the characteristics of the period they are in, secondary school students are likely to experience difficulties in social, emotional, and academic terms. Therefore, it seems important for students to be supported by others, especially their teachers, so that they can pass this period healthily and successfully.

The physical, mental, and emotional development characteristics of students and their needs differ according to the education level. Therefore, the type and quality of teacher support are likely to vary according to the education level. Based on the literature review, it can be said that the measurement tools developed to measure teacher support are not specific to education levels. In this context, it can be said that there is a need for teacher support scales specific to educational levels. More specifically, a new measurement tool needs to be developed

to determine the types of teacher support needed by students at the secondary school level, which is accepted as the beginning of adolescence. Again, although the scales developed in the literature present the dimensions of teacher support in different contexts, they do not provide information about the way or purpose of support. Undoubtedly, teachers offer support to students in many ways. Although it is not possible to measure or reveal all teacher support, information can be obtained about the types of support that are considered important for students, such as emotional, instructional, guidance and orientation, and problem solving. However, the literature's social support scales (Harter, 1985, 2012; Malecki et al., 1999; Yıldırım, 1997) used to measure teacher support do not provide information about the specific type of support. Additionally, while the measurement tool (Pianta et al., 2008) used to measure teacher support does have emotional or instructional support dimensions, it does not encompass crucial types of support such as guidance, orientation, and problem-solving. Moreover, the scale (Torsheim et al., 2000) used to measure teacher and classmate support only provides limited information about teacher support due to the small number of items in the tool, and some scales (Karabenick & Sharma, 1994; Zhang et al., 2021) are only used for special situations rather than general teacher support. These limitations highlight the need for the development of a new and comprehensive scale on teacher support. In particular, although many measurement tools have been developed to measure teacher support and type in different contexts in the international literature, it is seen that the social support scales, which are adapted (Cırık, Oktay, & Fer, 2014; Gökler, 2007) to or developed in Turkish (Yıldırım, 1997), are used in studies because there is no measurement tool to serve this purpose in Turkey. The use of a teacher support scale developed in Turkish can help to evaluate the research results in the context of Turkey. In this direction, the study aims to introduce a new scale specific to the secondary school level, which reveals the type, purpose, and method of teacher support, in the literature.

Method

Study Group

In this study, there were four different study groups whose participants were secondary school students in the spring term of the 2021-2022 academic year. The first study group consisted of 34 students, 16 girls, and 18 boys, who were selected from the 7th and 8th grade students of a secondary school in the Yenimahalle district of Ankara for the pre-application of the scale. 12 of the students in this group are in the 7th grade, and 22 of them are in the 8th grade. To determine and verify the structure of the scale, an application was made to secondary schools in the Yenimahalle district of Ankara. As a result of the application, 804 students provided data. However, during the preparation of the data for analysis, it was observed that there were many unanswered items in some measurement tools or that the same answer was given to all items. The measurement tool for 98 students with such problems was removed from the data set. Then, the data obtained from the remaining 706 students was divided into two groups, and the second study group for exploratory factor analysis (EFA) and the third study group for Confirmatory Factor Analysis (CFA) were obtained. The second study group created for EFA consisted of 183 female students (51.84%) and 170 (48.16%) male students. Of the students in this group, 93 (26.35%), 89 (25.21%), 72 (20.40%), and 99 (28.05%) are in the 5th, 6^{th,} 7th, and 8th grades, respectively. In the study group created for CFA, there were 206 (58.36%) female and 147 (41.64%) male students. Of the students in this group, 82 (23.23%), 75 (21.25%), 84 (23.80%), and 112 (31.73%) are in the 5th, 6^{th,} 7th, and 8th grades, respectively. The fourth study group consists of a total of 33 people: 20 girls and 13 boys, selected from the 7th and 8th grade students of the school where the pre-application was made to benefit from the test-retest method for the reliability study of the scale. 16 of the students in this group are in the 7th grade, and 17 of them are in the 8th grade.

Scale Development Stages

The following stages (DeVellis, 2021; Erkuş, 2012; Şeker & Gençdoğan, 2020) were followed for the development of the TSSSSS:

Step 1: Determination of the Structure to be Measured and Literature Review

As the current research aims to introduce a new measurement tool specific to the secondary school level, which reveals the type, purpose, and way of teacher support, to the literature, first of all, the theoretical structures that form the basis of teacher support were examined. To create the scale structure, the social support types of House (1981, cited in Tindle, 2012) were reconsidered according to the classification of Veiel (1985). Accordingly, it was considered necessary to develop a four-dimensional scale: emotional support, instructional support, guidance and orientation, and problem-solving support. Emotional support, instructional support, guidance and orientation support are the types of social support that the teacher continuously provides to support the emotional, cognitive, or behavioral development of the student when there is no problem, in other words, in ordinary situations. Problem-solving support, on the other hand, refers, as the name suggests, to the support provided by the teacher to help solve the problem in extraordinary situations when the student encounters a problem in or out of school. The teacher can offer one or more types of social support to solve the problem. For

example, taking care of the student when he or she has a problem can both help solve the problem and provide the emotional support that the student needs. Or, the guidance offered to the student can bring a solution to an area where the student has a problem. In this context, it is difficult to make a clear distinction between types of support. However, it has been decided to classify the types of support in this way since the problem-solving support provided in extraordinary situations differs from the types of support offered in ordinary situations in terms of shorter duration, when the student requests it, or when the teacher's intervention is necessary. The content of the types of support given in ordinary and extraordinary situations, the place where it is given, and the reason for it are explained below.

Emotional Support
It is about the behaviors exhibited by teachers to meet the feelings of trust, love, and value that students need in the school environment. A loving, empathetic, and egalitarian approach to students and trusting relationships are important in providing emotional support. Emotional support is one of the supports that the teacher can offer in or outside the classroom. In a way, it reveals what kind of approach a teacher should have in his relationship with his students.

Instructional Support
It is about providing feedback to students on-course performance, making additional efforts to improve student learning, helping students directly, motivating students to be successful, and encouraging student participation in the lesson. Instructional support is a type that takes place mostly in the classroom environment and can be offered to students during the lesson. The teacher's encouragement of students to increase their participation in the lesson can provide emotional support. For student learning, the teacher's checking the student's homework and giving him feedback can be evaluative support. The teacher can offer instrumental support by helping students with activities.

Guidance and Orientation Support
It is about providing information to students for the solution of problems, guiding them, giving feedback on the correctness of their behavior, informing them about the activities to be done in and outside the class, and encouraging participation in these activities. Guidance and orientation support is a type of support based on informing the student to support the student's development in different aspects. It may also include an evaluative approach to develop positive behavior in students. This type of support also takes place in the classroom environment and can be offered to students outside of the classroom.

Problem-Solving Support
This type of support is aimed at helping the student solve problems arising from school or outside of school. Sometimes the solution of the problem may require the direct intervention of the teacher, as with instrumental support. On the other hand, listening to the student can provide emotional support for the solution of the problem. Or, students can be informed about who can get support for solving the problem.
Step 2: Establishing the Item Pool and Determining the Scale Type
After determining the structure to be measured, expressions in the dimensions of social support were transformed into explanatory expressions reflecting teacher support, and a pool of 52 items was created. The distribution in the item pool is as follows: There are 13 items in the emotional support dimension, 15 items in the instructional support dimension, 12 items in the guidance and orientation support dimension, and 12 items in the problem-solving support dimension.
The Likert scale, which is widely used in tools that measure thoughts, beliefs, and attitudes, follows the answer options that show the various levels of agreeing with or confirming the item presented as a statement expressing a sentence (DeVellis, 2021). In the Likert-type attitude scale, grades can be 3, 5, 7, 9, or even 11. However, the 5-point rating is the most used because it is optimum (Tavşancıl, 2010, p.145). Responses on a 5-point Likert scale are usually graded as "strongly disagree = 1" and "strongly agree = 5". Hodge and Gillespie (2007) claim that the commonly used odd-numbered scales such as the 5-point Likert that use the midpoint have some difficulties, and they explain this situation as follows: The midpoint functions as a means of expressing an option such as "I don't know", "no opinion," or "I haven't thought about it". If a "no opinion" response is presented, some participants who are unsure of their degree of intensity may choose the "no opinion" response as a way to avoid the mental work associated with reasoning. The research scale was developed as a 6-point Likert type in order not to offer an escape option such as "no opinion" and to determine the degree of participation of the participants in the items on the scale. Therefore, the answers given to the statements on the scale were graded as Strongly Agree (6), Agree (5), Partially Agree (4), Partially Disagree (3), Disagree (2), and Strongly Disagree (1).

Step 3: Reviewing the Item Pool by Experts and Creating the Test for the Pre-Application (Pilot Study)

It is an important issue in research to reveal the purpose of the test and how appropriate the items in the test are with the qualifications to be tested and the scope to be measured (Ellez, 2012), in other words, the content validity of the test. For this reason, the created item pool was sent to two experts in educational sciences, and the experts were required to examine and assess the items in terms of scope. In line with the opinions and suggestions of the experts, two items under emotional support, one item under instructional support, three items under guidance and orientation support, and three items under the problem-solving dimension were rearranged. In addition, based on expert opinions, two items were added to the dimension of guidance and orientation support, and one item in the dimension of problem-solving was eliminated. Thus, it was tried to increase the representation power of the dimensions of the items in the measurement tool and to make sure that the scale has content validity. The 53-item draft form, which was obtained as a result of the arrangements made, was submitted for the opinion of two Turkish teachers working in secondary schools to check it in terms of compliance with the Turkish spelling rules and intelligibility. In line with the suggestions of the teachers, a 53-item test was created for the pre-application by including additional explanations in parentheses (for example, work, additional studies, activities, etc.) to make some expressions in the items more understandable.

Step 4: Pre-Application

The scale that is planned to be developed needs to be implemented with 30 to 50 people who can exemplify the target group (Şeker & Gençdoğan, 2020). With the pre-application, it can be determined whether the scale items are understood by the target group and whether the questions are working or not (Cemaloğlu, 2012). For the pre-application, 34 students studying in the 7th and 8th grades were determined to be the sample that could best represent the target group of the research. The reason why the study group was chosen from students in the 7th and 8th grades for the pre-application is that the students in this group attend more face-to-face education than the 5th and 6th grade students. The perceptions of students participating in face-to-face education about teacher support may be more specific. However, the reasons for choosing the school, which is included in the research sample and where one of the researchers works, can be listed as follows: (1) determining the average time it takes for the participants to complete the scale during the pre-application; (2) observing whether the participants have difficulties filling out the scale; and (3) having the opportunity to interview the participants about the items that should be added to or removed from the scale after the pre-application.

The pre-application took about 30 minutes on average. During the pre-application of the scale, it was observed that the participants had difficulty understanding the expression "promote" in some of the items under instructional support.

Step 5: Creation of a New Test for Application

In line with the suggestion of Turkish teachers, the word "encourages" was used instead of the phrase "promote", which the participants had difficulty understanding, to ensure a better understanding of the items. After the pre-application, the participants were interviewed and asked if there was an item that was not understood or if there was any statement they wanted to add. From the opinions of the participants, it was concluded that no changes were required in the items prepared for the scale or in the instructions for the scale. With these changes, it was decided to apply of the scale to a larger study group.

Step 6: Post-Application Analysis and Finalization of the Scale

After the application, the construct validity of the scale was examined first. Thanks to factor analysis, it is possible to get an idea about whether the scores obtained from the test related to construct validity measure the quality that the test is thought to measure (Ellez, 2012, p.185). Two approaches can be mentioned in determining construct validity: Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA). EFA is used to determine the dimensions, or in other words, the factors explained by the concepts (Durmuş, Yurtkoru, & Çinko, 2011). On the other hand, CFA is used to test whether the said structure is verified or not, based on the data obtained from the measurement tool developed in line with a theoretical structure (Çokluk, Şekercioğlu, & Büyüköztürk, 2012). Fabrigar, Wegener, MacCallum, and Strahan (1999) state that it is generally beneficial to use EFA and CFA in conjunction with each other, and if the sample in a single study is large enough, the sample can be randomly divided into halves and EFA can be performed in the first stage to provide a basis for the DFA model.

In this direction, two groups of 353 people were obtained by dividing the data obtained from 706 students randomly and in equal numbers as a result of the application to carry out EFA and CFA studies. Thus, the second and third study groups of the research were obtained. In the literature, there are different opinions about the required sample size for factor analysis. Cattel (1978) states that a sample size of 500 people is good for factor analysis, but a sample of 250 or 200 can be accepted as well. Tabachnnick and Fidell (2013, cited in Pallant, 2020) state that there should be at least 300 participants for factor analysis. Comrey and Lee (1992, cited in MacCallum, Widaman, Zhang, & Hong, 1999) provide a rating for adequate sample sizes in factor

analysis as follows: 100 = poor, 200 = fair, 300 = good, 500 = very good, and 1,000 or more = excellent. Based on the opinions of these researchers, it can be said that a study group of 353 people would be suitable for EFA. Again, considering that the sample size is sensitive to 200 in CFA (Şekercioğlu, 2009), it can be said that a sample of 353 people would be suitable for CFA.

Factor analyses were performed to reveal the structure of the scale based on the measurements obtained from the second and third study groups. The SPSS 22.0 program was used for performing EFA on the second study group, Lisrel 8.7 program was used for performing CFA on the third study group.
After the application, the reliability of the scale was examined secondarily. In studies, reliability is explained by two situations: the difference between the real situation and the measured situation in terms of accuracy, and a stable and consistent measurement in terms of consistency (Şeker & Gençdoğan, 2020). Different methods can be used to calculate reliability. One of these methods is the test-retest method. In the test-retest method, the continuity or stability coefficient is calculated based on the result of applying the same measurement tool to the same group after a certain period (Tavşancıl, 2010). The underlying rationale for such reliability determinations is this: If a measurement accurately reflects some meaningful construct, then that construct should be comparatively evaluated in different situations (DeVellis, 2021, p.51).

Cronbach's alpha and composite reliability coefficients were calculated for the reliability of the measurements obtained from the second and third study groups. On the other hand, the stability coefficient of the scale was calculated by applying the test-retest method on the data obtained from the fourth group of the study. Calculation of Cronbach's alpha coefficient and determination of test-retest reliability were carried out using the SPSS 22.0 program. The values obtained from CFA were calculated in Microsoft Excel 2010 by replacing them in the formula (İlhan & Çetin, 2014) used to calculate the composite reliability coefficient.

Findings

Findings Regarding Construct Validity

EFA was performed on the data obtained from the second study group, and CFA was performed on the data obtained from the third study group for the construct validity of the scale.

EFA Findings

KMO value and Bartlett test results were examined to determine whether the data were suitable for factor analysis. Since the KMO value (.964) was greater than .50 and the Bartlett test was statistically significant ($\chi 2 = 10706.120$, $df = 630$, $p = .000$), the data were found to be suitable for analysis. In EFA, the analysis was carried out depending on the choice of principal component factorization technique and varimax rotation method. The difference between the highest load value of an item in the factor and the highest value after this value is required to be at least .10 (Büyüköztürk, 2007). Analysis results showed that 3 items from the first factor (emotional support dimension), 10 items from the second factor (instructional support dimension), 2 items from the third factor (guidance and orientation support dimension), and 2 items from the fourth factor (problem-solving support dimension) did not meet this expectation or were in dimensions that did not comply with the theoretical structure. When these items were removed from the data set and analyzed again, it was seen that the remaining 36 items were collected in a four-factor structure, consistent with the theoretical explanations and overlapping with the scale structure predicted by the researchers. The four-factor structure of the scale explains 66.56% of the total variance. EFA findings are given in Table 1.

Table 1. EFA findings

Item Number	1. Factor	2. Factor	3. Factor	4. Factor
I1	.77			
I2	.74			
I3	.73			
I4	.67			
I5	.67			
I6	.66			
I7	.65			
I8	.59			
I9	.58			
I10	.57			
I11		.73		
I12		.69		
I13		.62		
I14		.58		

I15		.55		
I16			.79	
I17			.78	
I18			.75	
I19			.74	
I20			.69	
I21			.65	
I22			.63	
I23			.61	
I24			.61	
I25			.60	
I26			.59	
I27			.58	
I28				.72
I29				.69
I30				.68
I31				.66
I32				.65
I33				.64
I34				.64
I35				.62
I36				.60
Eigenvalue	2.30	1.31	18.96	1.40
Explained Variance	17.81	11.66	21.32	15.78
Total Variance	17.81	29.47	50.79	66.56

As can be seen from Table 1, the factor loads of the items on the scale vary between .55 and .79. Considering that "factor loading values of .45 or higher is a good criterion for item selection" (Büyüköztürk, 2007, p.124), it can be said that the loading values of the items in the scale are of the desired quality.

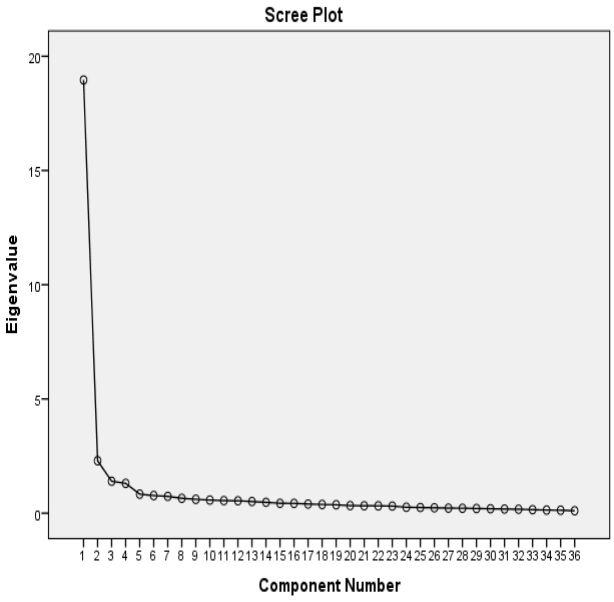

Figure 1. Distribution chart of the factors of the scale

CFA Findings

CFA was performed to confirm the four-factor structure of the scale. As a result of CFA, the fit indices for the scale structure were found to be $\chi 2 = 1964.16$ ($p = .00$), $df = 588$, $\chi 2 / df = 3.34$, *RMSEA* = .08, *CFI* = .95, *NFI* = 94, *IFI* = .95 and *SRMR* = .07. When the fit indices obtained as a result of CFA are evaluated according to the criteria given in Table 2, it can be stated that the fit indices are at an acceptable level and the construct validity of the TSSSSS was confirmed.

Table 2. Good fit and acceptable fit indices

Good fit indices	Acceptable fit indices
$0 \leq \chi 2/df \leq 2$	$2 < \chi 2/df \leq 5$
$0 \leq SRMR \leq .05$	$.05 < SRMR \leq .10$
$.97 \leq CFI \leq 1.00$	$.95 \leq CFI < .97$
$.95 \leq NFI \leq 1.00$	$.90 \leq NFI < .95$
$.95 \leq IFI \leq 1.00$	$.90 \leq IFI < .95$
$0 \leq RMSEA \leq .05$	$.05 < RMSEA \leq .08$

Source: Çokluk et al., 2012; Meydan & Şeşen, 2011; Schermelleh-Engel, Moosbrugger, & Müller, 2003

When the factor loading values obtained as a result of the CFA in Figure 2 are examined, it is seen that the other items have a load value higher than .45, except for one item (I11) in the dimension of instructional support. Kim-Yin (2004) suggested specific sample sizes to decide whether an item should remain on the scale. For example, for an item with a factor load of .30, the sample size should be at least 350 (cited in Şencan, 2005). Considering that there were 353 participants in the study group created for CFA and the factor load value (.73) in the result of EFA was greater than .45, it can be stated that there is no need to remove the item from the scale. The t-test values obtained from CFA are given in Table 3.

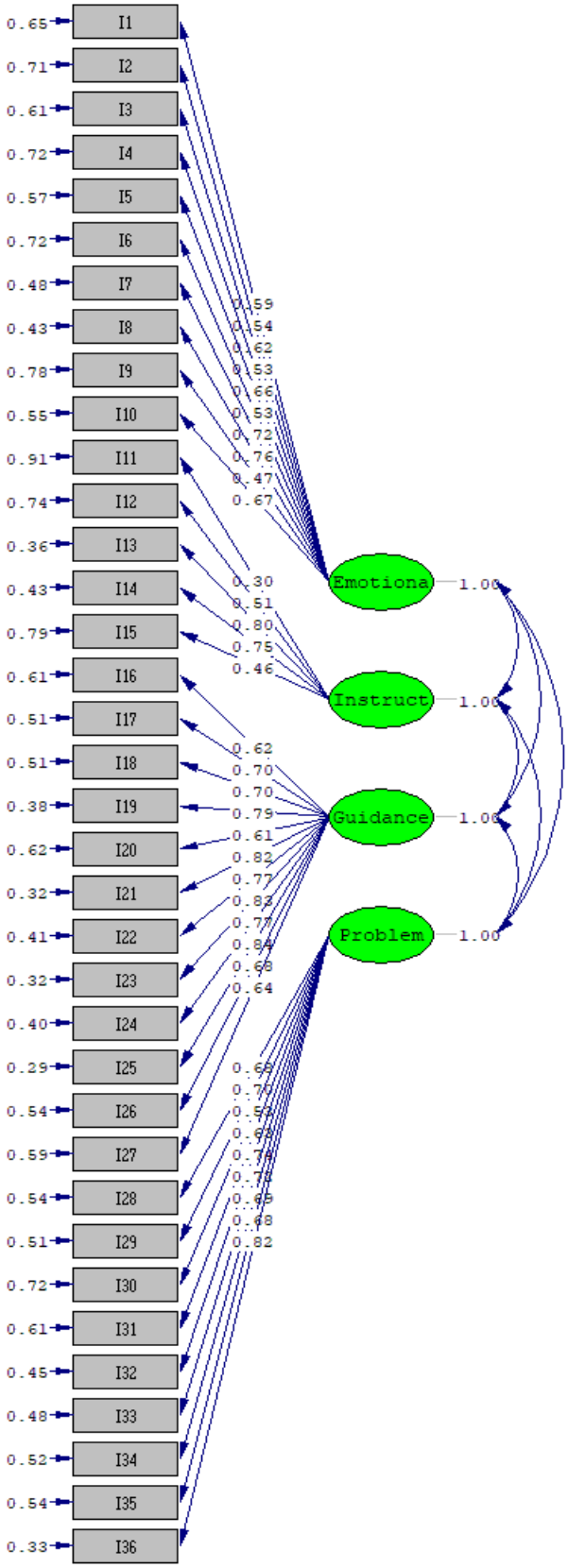

Figure 2. Factor loads obtained from CFA (Standardized Solutions)

Table 3. t-test values obtained from CFA

Item	t	Item	t
I1	11.53*	I19	17.51*
I2	10.32*	I20	12.52*
I3	12.31*	I21	18.71*
I4	10.18*	I22	16.91*
I5	13.23*	I23	18.81*
I6	10.03*	I24	17.01*
I7	14.84*	I25	19.34*
I8	15.92*	I26	14.16*
I9	8.74*	I27	13.10*
I10	13.64*	I28	13.96*
I11	9.26*	I29	14.66*
I12	9.42*	I30	10.32*
I13	16.64*	I31	12.67*
I14	15.38*	I32	15.78*
I15	8.46*	I33	15.14*
I16	12.68*	I34	14.38*
I17	14.76*	I35	14.02*
I18	14.89*	I36	18.29*

*$p < .01$

When the t values obtained as a result of CFA in Table 3 are examined, it is seen that the values vary between 8.46 and 19.34. The fact that the calculated t values are greater than 2.576 shows that they are significant at the level of .01 (Jöreskog & Sörbom, 1993, cited in Şimşek, 2007). Based on the t values obtained as a result of CFA, it can be said that the items in the scale are in the relevant sub-dimensions following the theoretical structure, and there is no need to remove any item from the model.

Findings Regarding Reliability

Cronbach's alpha for the reliability of the measurements obtained from the second study group and composite reliability coefficients for the reliability of the measurements obtained from the third study group were calculated. To determine the test-retest reliability of the study, two applications were made on 33 students with two-weeks intervals, and the correlation coefficient between the scores obtained from the two applications, in other words, the stability coefficient was calculated. The Cronbach's alpha, composite reliability, and stability coefficients for the measurements obtained from the study groups are given in Table 4.

Table 4. Cronbach alpha, composite reliability, and stability coefficients for measures obtained from study groups

Dimensions	Cronbach's Alpha	Composite Reliability	Stability
Emotional support	.92	.86	.94
Instructional support	.88	.71	.91
Guidance and orientation support	.95	.93	.93
Problem-solving support	.94	.89	.94

When Table 4 is examined, it is seen that the reliability coefficients vary between .71 and .94. Considering that the reliability of the scale is considered good if the coefficient is .70 and above (Büyüköztürk, 2007; Kılıç, 2016), it can be said that the scale is reliable.

Findings Related to Item Analysis

To determine the discrimination levels of the items in the TSSSSS, first of all, the data obtained from 706 people as a result of the application of the scale were divided into 27% lower-upper groups. Then, the corrected item-total correlations of the scale and the t-values related to the difference in the 27% lower and upper group item scores were calculated. The findings of the item analysis are given in Table 5.

Table 5. Corrected item-total correlations of the scale and t-values for 27% lower-upper group difference

Item	Item-total correlations	t	Item	Item-total correlations	t
I1	.75	-19.83*	I19	.76	-18.94*
I2	.70	-18.98*	I20	.75	-18.19*
I3	.68	-20.47*	I21	.81	-19.10*
I4	.71	-17.51*	I22	.76	-19.94*
I5	.73	-20.72*	I23	.80	-20.78*

I6	.73	-20.48*	I24	.76	-22.07*
I7	.72	-16.45*	I25	.80	-20.50*
I8	.77	-19.90*	I26	.81	-19.86*
I9	.75	-17.40*	I27	.74	-20.10*
I10	.77	-19.20*	I28	.82	-18.81*
I11	.63	-14.79*	I29	.82	-19.98*
I12	.73	-13.31*	I30	.69	-14.90*
I13	.78	-16.50*	I31	.79	-16.70*
I14	.78	-17.50*	I32	.75	-17.84*
I15	.70	-17.69*	I33	.73	-20.95*
I16	.79	-19.85*	I34	.80	-18.35*
I17	.82	-18.56*	I35	.77	-19.10*
I18	.76	-16.57*	I36	.81	-20.07*

*$p < .01$

When Table 5 is examined, the corrected item-total correlations of the scale were between .63 and .82; the t (sd = 294) values of the 27% lower and upper groups determined according to the total scores, on the other hand, vary between -22.07 ($p < .01$) and -13.31 ($p < .01$). It is desirable that the item-total correlation coefficient be at least .20 ($df = 100, p \leq .05$) or .25 ($df = 100, p \leq .05$) (Tavşancıl, 2010, p.148). It can be said that the items in the scale have a distinctive feature based on the corrected item-total correlations of the scale being above .25 and the t-values related to the differences in the item scores of the 27% lower and upper groups are statistically significant.

After item analysis, Pearson product-moment correlation coefficients were calculated to examine the compatibility and relationships between the sub-dimensions of the TSSSSS. The Pearson product-moment correlation coefficients for the sub-dimensions of the scale are given in Table 6.

Table 6. Pearson product-moment correlation coefficients for the sub-dimensions of the scale

	1.	2.	3.	4.
1. Emotional support	-			
2. Instructional support	.79*	-		
3. Guidance and orientation support	.76*	.79*	-	
4. Problem-solving support	.77*	.78*	.86*	-

*$p < .01$

When Table 6 is examined, it is seen that the correlation coefficients between the sub-dimensions of the scale vary between .76 and .86 and are statistically significant ($p < .01$). Based on these findings, it can be said that there is a high level of compatibility and correlation between the dimensions of the scale.

Conclusion and Recommendations

In this research, studies were conducted to develop a valid and reliable scale (TSSSSS) to reveal secondary school students' perceptions of teacher support. In the development of the scale, the steps in the literature (DeVellis, 2021; Erkuş, 2012; Şeker & Gençdoğan, 2020) were followed. Research data were obtained from four different study groups. A pre-application of the 53-item draft scale was performed on the first study group, and the participant's views on the duration of completing the scale, the difficulties they encountered in completing the scale, and the items that should be added to or removed from the scale were obtained. Some expressions in the scale were rearranged depending on the results of the pre-application. The data obtained as a result of the application were divided into two, and the second and third study groups of the research were formed. The structure of the scale developed in the second study group was determined by EFA. According to EFA results, it was seen that the scale had a structure consisting of four factors (dimensions) and 36 items: emotional support (10 items), instructional support (5 items), guidance and orientation support (12 items), and problem-solving support (9 items). The structure of the scale was confirmed in the third study group. To obtain information on the reliability of the scale from the measurements in the second and third groups, the combined Cronbach's alpha and composite reliability coefficients were calculated. In addition, the stability coefficient of the scale was determined by test-retest in a fourth study group. Thus, the reliability of the scale was confirmed in three different ways. By making an item analysis of the data in the second and third groups, it was seen that the items in the scale were at a distinctive level. Finally, Pearson product-moment correlation coefficients related to the sub-dimensions of TSSSSS were calculated on this data group, and it was determined that the compatibility and correlation between the dimensions of the scale were high. In summary, all analysis studies show that a valid and reliable scale has been developed that can measure secondary school students' perceptions of teacher support.

Examining the characteristics of the scales developed for teacher support in the literature may enable us to see the differences, strengths, and weaknesses of the Teacher Support Scale for Secondary School Students (TSSSSS) from these scales. In this context, it would be appropriate to examine the scales developed in this regard, which first consider teacher support as a dimension of social support. The Social Support Scale for Children (SSSC) developed by Harter (1985, 2012) and the Child and Adolescent Social Support Scale (CASSS) developed by Malecki et al. (1999) aim to reveal the social support that students receive from their parents, teachers, classmates, and close friends based on their perceptions. The Perceived Social Support Scale (PSSS) developed by Yıldırım (1997) also includes social support from relatives and society. The aforementioned scales differ from the Teacher Support Scale for Secondary School Students (TSSSSS) that we developed with the current research in that it provides other people and groups who provide social support other than the teacher. Since teacher support is designed as a sub-dimension of the social support scale, limited information about support is obtained. Again, although the scales give information about the social support provided by the teacher, they do not reveal the type of support.

One of the tools that indirectly measures teacher support outside the context of social support is Pianta et al. (2008) is the Classroom Assessment Scoring System (CLASS). The scale developed to measure teacher-student interaction has a three-dimensional structure: emotional support, classroom organization, and instructional support. Although the scale has the emotional and instructional dimensions of teacher support, it does not include the types of support that the student may need in the school environment, such as teacher guidance and orientation, or problem solving. Johnson et al. (1983), the Classroom Life Instrument, focuses more on the classroom climate and learning environment, but also provides limited information about the personal and academic support of the teacher. The fact that the Teacher Support Scale for Secondary School Students (TSSSSS) that we developed with the current research has dimensions such as guidance and orientation, and problem solving provides an advantage in terms of giving the teacher's support, or, in other words, the role of the teacher in creating a positive classroom climate.

In the literature, there are also scales developed to measure teacher support directly, not under social support or other concepts. The psychometric properties of the Teacher Support Scale (TSS), developed by McWhiter (1996) to determine students' perceptions of their teachers' supportive behaviors, were examined by Metheny, McWhirter, O'Neil (2008) and the factor structure of the scale was determined as follows: positive regard, invested, expectations, and accessible. The scale provides information about the teacher's involvement with the students, helping the students for their future success, having positive expectations about their academic success, and the students' accessibility to the teacher. On the other hand, the scale does not provide information about whether the teacher helps the students with problems. Torsheim et al. (2000), the four-item teacher support dimension of the Teacher and Classmate Support Scale is to reveal students' perceptions on issues such as the teacher treating students fairly, helping students when they need it, taking care of their students, and being nice and friendly towards them. Due to the small number of items in the teacher support dimension, limited information is obtained about the support and the type of support.

In the literature, there are also scales that measure the support offered by the teacher, based on the behavior of the teacher towards his students in more specific situations and issues. In the Perceived Teacher Support of Questioning Scale (PTSQ), developed by Karabenick and Sharma (1994), students' perceptions of support are tried to be deduced based on how teachers respond to other students as well as to themselves when their teachers are teaching or explaining something in the classroom. The scale reveals student perceptions of the teacher giving specific instructions to students on how to behave when they have questions, providing opportunities to ask questions during lectures or explanations, providing informative or procedural answers to questions, operating the reward-punishment system, giving emotional responses to student questions, and valuing asking questions in the classroom. The scale is limited to revealing the teacher's support through the students' responses to their questions during instruction. Zhang et al. (2021) developed the Career-Related Teacher Support Scale based on social support theory to measure the extent to which teachers support students' career development. The scale consists of three dimensions: enhancement of self-exploration, informational support, and emotional support. The enhancement of self-exploration means that teachers help students in their career planning to identify their own strengths and weaknesses, discover interests, and determine the relevance of job characteristics to them. Informational support means that teachers provide information to students about the requirements of the workplace, the job market, and employment prospects, and emotional support means that they believe in and encourage them to have a good future and career. Although the scale has some of the dimensions of social support, it has a very specific use in that it is career-based. For the subject of student bullying, which is also a special case, the Student Experience Teacher Support Scale (SETS) was developed by Nelson et al. (2019). The scale, which consists of two dimensions (experience and heard), is used to predict the degree to which students experience teacher support when exposed to aggression and bullying. The scales in

question have a very different structure and purpose from the Teacher Support Scale for Secondary School Students (TSSSSS) in terms of measuring the type and level of support that the teacher provides to his students in more specific situations and issues.

It is thought that the TSSSSS developed with the idea that "the developmental characteristics of the students differ according to the educational levels, which will also affect the type and quality of the support that will be provided to them". Thanks to this scale, an idea can be obtained about determining the areas in which secondary school students need support and what to do to meet these needs. There may be an improvement in the subjective and psychological well-being levels of students who are supported by their teachers in meeting their needs. Because adolescents' subjective well-being is related to their various school experiences, especially their perceptions of teacher support (Suldo et al., 2009). Teacher support can help students reduce psychological problems such as academic stress, depression, and burnout. Another benefit of teacher support is that it is also related to the academic emotions of the student (Lei, Cui, & Chiu, 2018). It can be thought that the studies to be carried out to increase teacher support will also reflect on the academic success of the students. The fact that the scale provides information on the way or purpose of teacher support may enable us to see the effect of the type of support on the variables associated with it in future studies. The development of the scale in Turkish is also very important in terms of helping to eliminate an important deficiency in the literature and evaluating the results in the context of Turkey.

In addition to these strengths, TSSSSS also has some limitations. As a result of EFA, 10 items that did not fit with the theoretical structure had to be removed from the instructional support dimension. Although the condition of having at least two items for a dimension (Durmuş et al., 2011) was met, there was a limitation in the dimension in terms of content validity. The type of support that the teacher can offer for student learning cannot be limited to these five items. Items in this dimension do not include types of teacher support such as motivating students to be successful, encouraging student participation, or fostering autonomy in the lesson. The reason for the elimination of these items from the scale may be due to the time of application of the scale. After the COVID-19 epidemic, the priority of teachers is to focus on the psychological adaptation of students to school rather than teaching. This situation may have been caused by the teachers' limited instructional support or not being perceived adequately by the students. On the other hand, the preparation of the scale items based only on the literature may also have limited the type of support. On the subject, information about different types of support could be obtained beforehand through qualitative interviews with students, and articles could be written about them. Again, it could be possible to design a second-level CFA by designing another support type or types other than problem-solving support for extraordinary situations. Despite all these limitations, TSSSSS is a valid and reliable scale that can measure secondary school students' perceptions of teacher support. The findings to be obtained as a result of the application of TSSSSS to different sample groups are important in terms of contributing to the measurement power of the scale. However, considering the limitations of the scale, developing a separate scale to support student learning and success in the future may help us obtain detailed information on this subject.

Author (s) Contribution Rate

Both researchers contributed at every stage of the research.

Conflicts of Interest

There are no conflicts of interest.

Ethical Approval

Ethical Approval Ethical Permission (14/01/2022-E-77082166-604.01.02-263897) was obtained from Gazi University for this research.

References

Alsubaie, M. M., Stain, H. J., Webster, L. A. D., & Wadman, R. (2019). The role of sources of social support on depression and quality of life for university students. *International Journal of Adolescence and Youth, 24*(4), 484-496.

Brajša-Žganec, A., Kaliterna-Lipovčan, L., & Hanzec, I. (2018). The relationship between social support and subjective well-being across the lifespan. *Društvena istraživanja, 27*(1), 47-45.

Büyüköztürk, Ş. (2007). *Sosyal bilimler için veri analiz kitabı.* Ankara: Pegem Yayımcılık.

Cassel, J. (1976). The contribution of the social environment to host resistance: The fourth wade hampton frost lecture. *American Journal of Epidemiology, 104*(2), 107-123.

Cattell, R. B. (1978). *The scientific use of factor analysis in behavioral and life sciences*. New York: Plenum. https://doi.org/10.1007/978-1-4684-2262-7

Cemaloğlu, N. (2012). Veri toplama teknikleri: Nicel ve nitel. A. Tanrıöğen (Ed.) In *Bilimsel araştırma yöntemleri* (pp. 133-164). Ankara: Anı Yayıncılık.

Cenkseven, F. (2002). Ergenlerin cinsiyet ve cinsiyet rollerinin benlik imajına etkisi. *Eğitim ve Bilim, 27*(125), 28-35.

Cırık, İ., Oktay, A., & Fer, S. (2014). İlköğretim öğrencilerinin algıladıkları sosyal destek düzeyleri. *Eğitim ve Bilim, 39*(173), 169-180.

Cobo-Rendón, R., López-Angulo, Y., Pérez-Villalobos, M. V., & Díaz-Mujica, A. (2020). Perceived social support and ıts effects on changes in the affective and eudaimonic well-being of chilean university students. *Frontiers in Psychology, 11*, 3380.

Connell, J. P., & Wellborn, J. G. (1991). Competence, autonomy, and relatedness: A motivational analysis of self-system processes. In M. R. Gunnar & L. A. Sroufe (Eds.), *Self processes and development* (pp. 43–77). Lawrence Erlbaum Associates, Inc.

Conner, J. O., Miles, S. B., & Pope, D. C. (2014). How many teachers does it take to support a student?: Examining the relationship between teacher support and adverse health outcomes in high-performing, pressure-cooker high schools. *The High School Journal, 98*(1), 22-42.

Cui, S., Cheng, F., Zhang, L., Zhang, C., Yuan, Q., Huang, C., ... & Zhou, X. (2021). Self-esteem, social support and coping strategies of left-behind children in rural China, and the intermediary role of subjective support: A cross-sectional survey. *BMC psychiatry, 21*(1), 1-9.

Çokluk, Ö. Şekericioğlu, G., & Büyüköztük, Ş. (2012). *Sosyal bilimler için çok değişkenli istatsitik spss ve lisrel uygulamaları*. Ankara: Pegem Yayıncılık.

Deb, S., Strodl, E., & Sun, H. (2015). Academic stress, parental pressure, anxiety and mental health among Indian high school students. *International Journal of Psychology and Behavioral Science, 5*(1), 26-34.

DeVellis, R. F. (2021). *Ölçek geliştirme: Kuram ve uygulamalar*. Ankara: Nobel Yayıncılık.

Durmuş, B., Yurtkoru, E. S., & Çinko, M. (2011). *Sosyal bilimlerde spss'le veri analizi.* İstanbul: Beta.

Ellez, M. (2012). Ölçme araçlarında bulunması gereken özellikler. In A. Tanrıöğren (Ed.) *Bilimsel araştırma yöntemleri* (pp.167-190). Ankara: Anı Yayıncılık.

Erkuş, A. (2012). *Psikolojide ölçme ve ölçek geliştirme.* Ankara: Pegem Akademi Yayınları.

Fabrigar, L. R., Wegener, D. T., MacCallum, R. C. ve Strahan, E. J. (1999). Evaluating the use of exploratory factor analysis in psychological research. *Psychological Methods, 4*(3), 272-299.

Fariborz, N., Hadi, J., & Ali, T. N. (2019). Students' academic stress, stress response and academic burnout: Mediating role of self-efficacy. *Pertanika J. Soc. Sci. Humanit, 27*, 2441-2454.

Gökler, I. (2007). Çocuk ve ergenler için sosyal destek değerlendirme ölçeği Türkçe formunun uyarlama çalışması: Faktör yapısı, geçerlik ve güvenirliği. *Çocuk ve Gençlik Ruh Sağlığı Dergisi, 42*(1), 43-54.

Hamre, B. K., & Pianta, R. C. (2007). Learning opportunities in preschool and early elementary classrooms. In R. C. Pianta, M. J. Cox, & K. L. Snow (Eds.), *School readiness and the transition to kindergarten in the era of accountability* (pp. 49–84). Baltimore: Brookes.

Hamre, B. K., Pianta, R. C., Downer, J. T., DeCoster, J., Mashburn, A. J., Jones, S. M., ... & Hamagami, A. (2013). Teaching through interactions: Testing a developmental framework of teacher effectiveness in over 4,000 classrooms. *The Elementary School Journal, 113*(4), 461-487.

Hafen, C. A., Hamre, B. K., Allen, J. P., Bell, C. A., Gitomer, D. H., & Pianta, R. C. (2015). Teaching through interactions in secondary school classrooms: Revisiting the factor structure and practical application of the classroom assessment scoring system–secondary. *The Journal of Early Adolescence, 35*(5-6), 651-680.

Harter, S. (1985). *Manual of the self-perception profile for children*. Denver, CO: University of Denver.

Harter, S. (2012). *Social support scale for children: Manual and questionnaires*. Denver, CO: University of Denver.

Hodge, D. R., & Gillespie, D. F. (2007). Phrase completion scales: A better measurement approach than Likert scales?. *Journal of Social Service Research, 33*(4), 1-12.

İlhan, M., & Çetin, B. (2014). Sınıf değerlendirme atmosferi ölçeği'nin (SDAÖ) geliştirilmesi: Geçerlik ve güvenirlik çalışması. *Eğitim ve Bilim, 39*(176).

Jensen, F. E. & Nutt, A. E. (2017). *Ergen beyni.* İstanbul: Hep Kitap.

Johnson, D. W., Johnson, R., & Anderson, D. (1983). Social interdependence and classroom climate. *The Journal of Psychology, 114*, 135–142.

Karabenick, S.A. & R. Sharma. (1994). Perceived teacher support of student questioning in the college classroom: Its relation to student characteristics and role in the classroom questioning process. *Journal of Educational Psychology, 86*, 90-103.

Kılıç, S. (2016). Cronbach'ın alfa güvenirlik katsayısı. *Journal of Mood Disorders, 6*(1), 47-48.

La Paro, K. M., Pianta, R. C., & Stuhlman, M. (2004). The classroom assessment scoring system: Findings from the prekindergarten year. *The Elementary School Journal*, *104*(5), 409-426.

Lei, H., Cui, Y., & Chiu, M. M. (2018). The relationship between teacher support and students' academic emotions: A meta-analysis. *Frontiers in psychology*, *8*, 2288.

Lin, N., Ensel, W. M., Simeone, R. S., & Kuo, W. (1979). Social support, stressful life events, and illness: A model and an empirical test. *Journal of health and Social Behavior*, *20*(2), 108-119.

MacCallum, R. C., Widaman, K. F., Zhang, S., & Hong, S. (1999). Sample size in factor analysis. *Psychological methods*, *4*(1), 84.

Malecki, C.K., Demaray, M.K., & Elliott, S.N. (2004). *A working manual on the development of the child and adolescent social support scale*. DeKalb, IL: Northern Illinois University.

McWhirter, E. H. (1996). Teacher support scale (TSS). Unpublished measure.

Metheny, J., McWhirter, E. H., & O'Neil, M. E. (2008). Measuring perceived teacher support and its influence on adolescent career development. *Journal of Career Assessment*, *16*(2), 218-237.

Meydan, C. H. & Şeşen, H. (2011). Yap*ısal eşitlik modellemesi amos uygulamaları.* Ankara: Detay Yayıncılık.

Nelson, H. J., Kendall, G. E., Burns, S. K., Schonert-Reichl, K. A., & Kane, R. T. (2019). Development of the student experience of teacher support scale: Measuring the experience of children who report aggression and bullying. *International journal of bullying prevention*, *1*(2), 99-110.

Özel, Y. & Bay Karabulut, A. (2018). Günlük yaşam ve stres yönetimi. *Türkiye Sağlık Bilimleri ve Araştırmaları Dergisi*, *1*(1), 48-56.

Pallant, J. (2020). *Spss kullanma klavuzu: Spss ile adım adım veri analizi* (Çeved. S. Balcı ve B. Ahi). Ankara: Anı Yayıncılık.

Pascoe, M. C., Hetrick, S. E., & Parker, A. G. (2020). The impact of stress on students in secondary school and higher education. *International Journal of Adolescence and Youth*, *25*(1), 104-112.

Pianta, R. C., Hamre, B. K., & Allen, J. P. (2012). Teacher-student relationships and engagement: Conceptualizing, measuring, and improving the capacity of classroom interactions. In *Handbook of research on student engagement* (pp. 365-386). Springer, Boston, MA.

Pianta, R. C.,La Paro, K. M., & Hamre, B. K. (2008). Classroom assessment scoring system (CLASS) Manual: Pre-K. Baltimore, MD: Paul H. Brookes Pub. Co.

Poudel, A., Gurung, B., & Khanal, G. P. (2020). Perceived social support and psychological wellbeing among Nepalese adolescents: The mediating role of self-esteem. *BMC psychology*, *8*(1), 1-8.

Reddy, K. J., Menon, K. R., & Thattil, A. (2018). Academic stress and its sources among university students. *Biomedical and Pharmacology Journal*, *11*(1), 531-537.

Reddy, R., Rhodes, J. E., & Mulhall, P. (2003). The influence of teacher support on student adjustment in the middle school years: A latent growth curve study. *Development and psychopathology*, *15*(1), 119-138.

Ruisoto, P., Ramírez, M. R., García, P. A., Paladines-Costa, B., Vaca, S. L., & Clemente-Suárez, V. J. (2021). Social support mediates the effect of burnout on health in health care professionals. *Frontiers in Psychology*, *11*, 3867.

Ryan, A. M., & Patrick, H. (2001). The classroom social environment and changes in adolescents' motivation and engagement during middle school. *American Educational Research Journal*, *38*(2), 437-460.

Schaefer, C., Coyne, J. C., & Lazarus, R. S. (1981). The health-related functions of social support. *Journal of behavioral medicine*, *4*(4), 381-406.

Scardera, S., Perret, L. C., Ouellet-Morin, I., Gariépy, G., Juster, R. P., Boivin, M., ... & Geoffroy, M. C. (2020). Association of social support during adolescence with depression, anxiety, and suicidal ideation in young adults. *JAMA Network Open*, *3*(12), e2027491-e2027491.

Schermelleh-Engel, K., Moosbrugger, H., & Müller, H. (2003). Evaluating the fit of structural equation models: Tests of significance and descriptive goodness-of-fit measures. *Methods of psychological research online*, *8*(2), 23-74.

Seçer, İ. & Gençdoğan, B. (2012). Ortaöğretim öğrencilerinde okul tükenmişliğinin çeşitli değişkenler açısından incelenmesi. *Turkish Journal of Education*, *1*(2), 1-13.

Skinner, E. A., & Belmont, M. J. (1993). Motivation in the classroom: Reciprocal effects of teacher behavior and student engagement across the school year. *Journal of Educational Psychology*, *85*, 571–581.

Skinner, E., Furrer, C., Marchand, G., & Kindermann, T. (2008). Engagement and disaffection in the classroom: Part of a larger motivational dynamic?. *Journal of Educational Psychology*, *100*(4), 765.

Strati, A. D., Schmidt, J. A., & Maier, K. S. (2017). Perceived challenge, teacher support, and teacher obstruction as predictors of student engagement. *Journal of Educational Psychology*, *109*(1), 131.

Suldo, S. M., Friedrich, A. A., White, T., Farmer, J., Minch, D., & Michalowski, J. (2009). Teacher support and adolescents' subjective well-being: A mixed-methods investigation. *School Psychology Review*, *38*(1), 67-85.

Şeker, H., & Gençdoğan, B. (2020). *Psikolojide ve eğitimde ölçme aracı geliştirme*. Ankara: Nobel Yayıncılık.

Şekercioğlu, G. (2009). *Çocuklar için benlik algısı profilinin uyarlanması ve faktör yapısının farklı değişkenlere göre eşitliğinin test edilmesi* (Unpublished doctoral dissertation). Ankara Üniversitesi, Ankara.

Şencan, H. (2005). *Sosyal ve davranışsal ölçümlerde güvenilirlik ve geçerlilik* (First Edition). Ankara: Seçkin Yayınları.

Şimşek, Ö. F. (2007). *Yapısal eşitlik modellemesine giriş, temel ilkeler ve lisrel uygulamaları.* Ankara: Ekinoks.

Taylor, S. E. (2011). Social support: A review. In H. S. Friedman (Ed.), *The Oxford handbook of health psychology* (pp. 189–214). New York, NY: Oxford University Press.

Tavşancıl, E. (2010). *Tutumların ölçülmesi ve SPSS ile veri analizi.* Ankara: Nobel Yayıncılık.

Tennant, J. E., Demaray, M. K., Malecki, C. K., Terry, M. N., Clary, M., & Elzinga, N. (2014, December 22). Students' ratings of teacher support and academic and social–emotional well-being. *School Psychology Quarterly*. Advance online publication. doi: .org/10.1037/spq0000106

Tindle, J. A. (2012). *Dimensions of principal support behaviors and their relationship to organizational citizenship behaviors and student achievement in high schools* (Unpublished doctoral dissertation). The College of William and Mary, Virginia.

Torsheim, T., Wold, B., & Samdal, O. (2000). The teacher and classmate support scale: Factor structure, test-retest reliability and validity in samples of 13-and 15-year-old adolescents. *School Psychology International*, *21*(2), 195-212.

Wang, X., Cai, L., Qian, J., & Peng, J. (2014). Social support moderates stress effects on depression. *International Journal of Mental Health Systems, 8*(1), 1-5.

Wang, L. J., Wang, W. C., Gu, H. G., Zhan, P. D., Yang, X. X., & Barnard, J. (2014). Relationships among teacher support, peer conflict resolution, and school emotional experiences in adolescents from Shanghai. *Social Behavior and Personality: An International Journal*, *42*(1), 99-113.

Wit, D. J. D., Karioja, K., Rye, B. J., & Shain, M. (2011). Perceptions of declining classmate and teacher support following the transition to high school: Potential correlates of increasing student mental health difficulties. *Psychology in the Schools*, *48*(6), 556-572.

Veiel, H. O. (1985). Dimensions of social support: A conceptual framework for research. *Social psychiatry, 20*(4), 156-162.

Yıldırım, İ. (1997). Algılanan sosyal destek ölçeğinin geliştirilmesi: Güvenirliği ve geçerliği. *Hacettepe Eğitim Fakültesi Dergisi, 13*, 81- 87.

Yıldırım, S. (2012) Teacher support, motivation, learning strategy use, and achievement: a multilevel mediation model. *The Journal of Experimental Education, 80*(2), 150-172, doi: 10.1080/00220973.2011.596855.

Yıldırım, S. & Yıldırım, H.H. (2019). Predicting mathematics achievement: The role of perceived feedback, teacher support and self-beliefs. *Turkish Journal of Education, 8*(2), 71-85. doi: 10.19128/turje.435345.

Yu, R., & Singh, K. (2018). Teacher support, instructional practices, student motivation, and mathematics achievement in high school. *The Journal of Educational Research*, *111*(1), 81-94.

Zhang, J., Chen, G., & Yuen, M. (2021). Development and validation of the career-related teacher support scale: data from China. *International Journal for Educational and Vocational Guidance, 21*(1), 161-185.

Zhang, X., Gao, F., Kang, Z., Zhou, H., Zhang, J., Li, J., ... & Liu, B. (2022). Perceived Academic Stress and Depression: The Mediation Role of Mobile Phone Addiction and Sleep Quality. *Frontiers in Public Health*, 66.

Zimet, G. D., Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988). The multidimensional scale of perceived social support. *Journal of Personality Assessment, 52*(1), 30–41.

Appendix 1. Teacher Support Scale for Secondary School Students (Turkish Version)

	Bu okuldaki öğretmenler,	Kesinlikle katılmıyorum	Katılmıyorum	Kısmen Katılmıyorum	Kısmen Katılıyorum	Katılıyorum	Kesinlikle katılıyorum
1	Öğrencilerine güvenir.	(1)	(2)	(3)	(4)	(5)	(6)
2	Öğrencilerine karşı sevgi doludur.	(1)	(2)	(3)	(4)	(5)	(6)
3	Öğrencilerine karşı açık ve dürüsttür.	(1)	(2)	(3)	(4)	(5)	(6)
4	Öğrencilerine karşı saygılıdır.	(1)	(2)	(3)	(4)	(5)	(6)
5	Öğrencilerine karşı anlayışlıdır.	(1)	(2)	(3)	(4)	(5)	(6)
6	Karşısındaki öğrenciye önyargı ile yaklaşmaz.	(1)	(2)	(3)	(4)	(5)	(6)
7	Öğrencileriyle konuşurken dikkatini onlara verir.	(1)	(2)	(3)	(4)	(5)	(6)
8	Öğrencileriyle ilgilenir.	(1)	(2)	(3)	(4)	(5)	(6)
9	Öğrencilerinin başarılı olabileceğine inanır.	(1)	(2)	(3)	(4)	(5)	(6)
10	Öğrencilerine karşı güler yüzlüdür.	(1)	(2)	(3)	(4)	(5)	(6)
11	Ders esnasında anlaşılmayan bir konuyu istememiz halinde tekrar anlatır.	(1)	(2)	(3)	(4)	(5)	(6)
12	Ders esnasında anlatılan konuyla ilgili bir sorumuz olursa bunu çekinmeden sorabileceğimizi söyler.	(1)	(2)	(3)	(4)	(5)	(6)
13	Bir işin (örneğin, etkinliğin, ödevin vb.) nasıl yapılması gerektiği konusunda açıklama yapar.	(1)	(2)	(3)	(4)	(5)	(6)
14	Bir işin nasıl yapılması gerektiğini gösterir.	(1)	(2)	(3)	(4)	(5)	(6)
15	Ders esnasında yanımıza gelerek yaptığımız işin doğru olup olmadığını kontrol eder.	(1)	(2)	(3)	(4)	(5)	(6)
16	Günlük yaşantımızda bizim için yararlı olacak bilgiler verir.	(1)	(2)	(3)	(4)	(5)	(6)
17	İyi bir insan olarak yetişmemiz için bize tavsiyelerde bulunur.	(1)	(2)	(3)	(4)	(5)	(6)
18	Sağlıklı bir birey olarak yetişmemiz için edinmemiz gereken alışkanlıklar konusunda bize tavsiyelerde bulunur. (Örneğin, hijyen, beslenme, uyku vb.)	(1)	(2)	(3)	(4)	(5)	(6)
19	Duygu ve düşüncelerimizi nasıl ifade edebileceğimiz konusunda bizi bilgilendirir.	(1)	(2)	(3)	(4)	(5)	(6)
20	Arkadaşlarımıza nasıl davranmamız gerektiği konusunda tavsiyelerde bulunur.	(1)	(2)	(3)	(4)	(5)	(6)
21	Başarılı olmamız için nasıl çalışmamız konusunda tavsiyelerde bulunur.	(1)	(2)	(3)	(4)	(5)	(6)
22	Hedeflerimizi belirlerken nelere dikkat etmemiz konusunda bizi bilgilendirir.	(1)	(2)	(3)	(4)	(5)	(6)
23	Belirlediğimiz hedeflere nasıl ulaşabileceğimiz konusunda bize yol gösterir.	(1)	(2)	(3)	(4)	(5)	(6)
24	Kişisel sorunlarımızı çözebilmemiz için nasıl bir yol izlememiz gerektiği konusunda bizi bilgilendirir.	(1)	(2)	(3)	(4)	(5)	(6)
25	Hedeflerimize ulaşmamız için bizi cesaretlendirir.	(1)	(2)	(3)	(4)	(5)	(6)

26	Hedeflerimize ulaşabileceğimize inanır.	(1)	(2)	(3)	(4)	(5)	(6)
27	Başarı durumumuzu takip eder.	(1)	(2)	(3)	(4)	(5)	(6)
28	Bir sorunumuz olduğunda bizi dinler.	(1)	(2)	(3)	(4)	(5)	(6)
29	Bir sorunumuz olduğunda sorunun çözümü için yardımcı olur.	(1)	(2)	(3)	(4)	(5)	(6)
30	Kavga eden öğrenciler varsa onları ayırır.	(1)	(2)	(3)	(4)	(5)	(6)
31	Birisine kötü davranıldığını görürse bunu yapan(lar)a müdahale eder.	(1)	(2)	(3)	(4)	(5)	(6)
32	Birisi kendini kötü hissederse onu rahatlamaya çalışır.	(1)	(2)	(3)	(4)	(5)	(6)
33	Birisi öfkelendiğinde onu sakinleştirir.	(1)	(2)	(3)	(4)	(5)	(6)
34	İhtiyaç duyduğumuz bir bilgiyi sağlar.	(1)	(2)	(3)	(4)	(5)	(6)
35	İhtiyaç duyduğumuz bir bilgiye sahip olmasa bile o bilgiye ulaşmak için bize yardımcı olur.	(1)	(2)	(3)	(4)	(5)	(6)
36	İhtiyacımız olan bir şeyi elde etmemizde bize yardımcı olur.	(1)	(2)	(3)	(4)	(5)	(6)