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High School Students' Effective Study Attitude and School Burnout: A Scale Development Study

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Abstract. Effective study attitude is one of the most important components of the learning process. This study aims to develop the Effective Studying Attitude Scale for high school students and to determine whether school burnout predicts their effective studying. In the scale development study, Explanatory and Confirmatory Factor Analyses were performed with the data obtained from 368 high school students [182 girls and 186 boys, aged between 14-19]. The factor analysis showed that the scale consists of three factors [Belief in the Value of Learning and Persistence in Learning; Time Planning and Application in Learning and Flow in Learning]. The variance explained by the three factors is 55%. Fit indexes obtained from the CFA showed that the model fit the data at a good level [$\chi 2/df=1.5$, RMSEA=0.05, CFI=0.98, NNFI=0.97, IFI=0.98, GFI=0.92, NFI=0.94, SRMR=.05]. The reliability coefficients for the factors of the scale range between .72 - .84. Whereas the effective study attitude is negatively predicted by the "loss of interest in school", "burnout from studying," and "burnout from homework," it is positively predicted by the need to rest and time for fun. Based on the findings of this study; It can be suggested that the school burnout variable should also be taken into account in studies conducted to increase students' effective study skills.

Keywords. Effective study attitude, school burnout, high school.

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A primary purpose of the school is to equip students with the necessary knowledge and skills to understand and adapt to life in a versatile way. Of course, achieving this by ensuring the highest efficiency spending the least possible energy is the ideal, which can be attained through effective teaching. This requires appropriate teaching strategies and policies to support education, and teachers and principals who are equipped with the necessary knowledge and skills for effective teaching, who perform their work in a purposeful manner. However, despite the importance of all these factors, for teaching to take place effectively, students have certain duties and responsibilities to fulfil for effective learning such as developing positive attitudes towards school and learning, being driven to learn new things, and make enough effort to make permanent learning possible.

Students' positive attitudes towards school and learning, their desire to learn new things, and their learning efforts are not sufficient to produce positive results independently of each other. In the absence of some of these, permanent and high-quality learning, which is the purpose of education, cannot be fully achieved. For example, if a student with positive attitudes towards school and learning does not make enough effort to make learning possible, failure will be inevitable. Or, even if the student does his/her homework for some external reason (for example, parental pressure to study or to the need to get high scores in exams), he/she will not be able to get the expected efficiency from his/her efforts if he/she does not have positive attitudes towards school and learning. The study of Demirezen and Akhan (2013) show that students may simultaneously have characteristics that will both facilitate and complicate their permanent and quality learning. The findings of a qualitative study carried out by these researchers on secondary school students indicate that the students knew the classical study methods and techniques, but they did not have sufficient knowledge about different study methods and techniques. In addition, the findings suggest that students often have contradictory feelings towards studying (like both loving and finding it boring), and although they perceive studying as an obligatory task, they are aware that they need to study for their dream career.

Students need to have positive attitudes towards both school and learning so that they can benefit from education processes at a high level, have a belief and awareness that their learning will contribute positively to their lives, they should enjoy studying, and they need to make an adequate and appropriate effort (Ormrod, 2013; Walck-Shannon et al., 2021). In other words, to be successful, they need to display the behaviors that are necessary for learning and have the necessary beliefs and emotions that will enable them to maintain these behaviors (Ch, 2006; Mostafa, 2018; Ormrod, 2013; Ogbodo, 2010), all of which mean having an effective study attitude.

Having effective study attitudes is very important as it is one of the most important objectives of educational guidance, which aims to ensure that students benefit from teaching activities at the highest level (Tan & Baloğlu, 2011; Yeşilyaprak, 2016). The transformation of effective study attitudes developed during school years into behavioral habits will have a positive impact on both the schooling and post-schooling experience of students (Ch, 2006; Ogbodo, 2010; Yeşilyaprak, 2016).

The research literature shows that study habits are closely related to academic success. For example, Credé and Kuncel's (2008) meta-analysis studies have shown that academic performance is associated with study skills, habits, attitudes, and motivation. In their study of the mathematics study habits of secondary school students, Yenilmez and Özbey (2007) found that students with more appropriate habits such as listening to the lesson and repeating the lesson were more successful than other students. Ch (2006) investigated the effect of high school students' study attitudes and habits on their academic achievement with an experimental study and determined that a method to improve students' study attitudes and habits created a significant difference in favor of the experimental group. In addition, the long-term implementation of the method related to study attitudes and habits was found to have positive effects on the academic success of the students. Conducting a study on university students, Vrugt and Oort (2008) found that using strategies of metacognition (such as planning, monitoring learning processes) and resource management (such as time management, preparing a lesson plan) positively affected academic success using a superficial strategy (such as memorizing information, coding information for a short time) affected it negatively.

While students' positive attitudes and habits towards study contribute positively to their academic success, they also affect their mental health positively or serve a protective function in terms of mental health. For example Bilge et al., (2014) have found significant relationships between high school students' study habits, academic achievement, self-efficacy beliefs and burnout levels. Other studies draw attention to the relationships between studying, doing homework, fulfilling academic tasks related to school, and school burnout (Özdemir, 2015; Salmela-Arove & Upadyaya, 2014). All these findings suggest at significant relationships between students' effective study habits and school burnout.

Burnout is a set of emotional, spiritual and physical symptoms that cause a decrease in the perception of success and efficacy as a result of consuming the power and energy of the individual (Maslach et al., 2001). School burnout, on the other hand, is the state of students feeling exhausted due to the demands and requirements of school life and seeing themselves as inadequate as students

(Bask & Salmelo-Aro, 2012; Salmela-Aro et al., 2009b; Schaufeli et al., 2002). According to Aypay (2011, 2012), school burnout is an expression of the burnout syndrome created by the "excessive" demands of the education units and the school. Studies have reported that high school students are at an increasing risk of burnout (Bask & Salmelo-Aro, 2012; Walburg, 2014).

Students have also been found to experience problems in school-related work and procedures such as academic failure, indifference to homework, dropping out of school, indifference to school, self-perception, decrease in academic success, academic procrastination, decrease in problem solving success, and decrease in emotional and cognitive participation as a result of school burnout (Balkıs, 2013; May et al., 2015; Salmela-Aro et al., 2009a; Zhang et al., 2007; Walburg, 2014;Virtanen et al., 2016). In addition, school burnout has been found to increase the risk of depression and suicide, pose a risk for internalized problems such as anxiety, and to create a strong relationship with stress (Meylan et al., 2011; Walburg, 2014).

No instrument to measure the effective study attitude could be identified in the literature. Although there are some measurement instruments (scale development and adaptation) used in existing studies, such as Approaches to Study (Yılmaz & Orhan, 2011), Perception of Study Self-Efficacy (Güvenç, 2010), Learning and Study Strategies (Weinstein et al., 1987), Learning and Study Approaches (Topkaya et al., 2011), Study Skills (Bay et al., 2004), and Study Habits (Günaydın (2011), no measurement tool could be found specific to Turkish culture that can be used to measure Turkish high school students' effective study attitudes. However, previous studies offer some insights into the nature of the relationship between the school burnout and effective study attitude (Salmela-Aro et al., 2009a; Zhang et al., 2007; Walburg, 2014). Aypay's (2012) school burnout scale development study has revealed that school burnout in high school students has a seven-factor structure (loss of interest in school, burnout from family, burnout from studying, burnout from family, burnout from homework, burnout from teacher attitudes, need to rest and time for fun, and feeling inadequacy at school). It can be predicted that the increase in students' loss of interest in school, exhaustion from studying, exhaustion from doing homework, need for rest and entertainment will make it difficult for students to fulfil their school responsibilities because it seems natural that the study habits of students who are exhausted from doing homework and study activities other than homework, who think that they cannot spare enough time to rest and have fun, who experience a decrease in their interest in school, and perceive the requirements of the school as a burden are negatively affected. However, considering that the dimensions of burnout from family and burnout from teacher attitudes also highlight the pressures of studying, students' attitudes towards studying

can be expected to be negatively affected by these pressures. Finally, since the dimension of inadequacy at school refers to the fact that students begin to feel academically inadequate, it is likely that as the feeling of inadequacy increases, students lose their belief in studying. For all these reasons, the current study tested the hypothesis that school burnout syndrome would negatively predict students' effective study habits. One main purpose of the current study is to develop a measurement tool that can be used to determine high school students' effective study attitudes. The second is to determine whether school burnout predicts high school students' effective study attitudes.

Method

Research Model and Study Group

This study was designed as a correlational research (Creswell, 2013; Fraenkel et al., 2012). Firstly, a measurement tool was developed to evaluate the effective study attitudes of high school students. The research was carried out on a group of 368 students [182 girls and 186 boys] aged between 14-19, [$\overline{X}$ = 16, SD=.85] and attending high school, which was formed through purposeful sampling. Of the students, 89 were ninth graders, 150 were tenth graders, and 129 were eleventh grade students. The data collected from 309 high school students were used to determine the predictive strength of school burnout on effective study attitude. Applying the purposeful sampling technique, data obtained from 157 female and 152 male students aged between 14 and 18 [$\overline{X}$ =15, SD=.83] were used. Of these students, 89 were ninth graders, 121 were tenth graders, and 99 were eleventh graders. The participants were students studying at two public Anadolu High Schools.

Data Collection Tools

School burnout scale for high school students (SBS). The scale was developed by Aypay (2012) to determine the school burnout levels of high school students. The scale consists of 34 items and is scored on a 4-point Likert scale [(Totally agree (4), Agree (3), Disagree (2) and Strongly disagree (1)]. A high score on the scale indicates a high level of school burnout. The total explained variance of the scale is 61% and consists of seven sub-dimensions, namely, "Loss of Interest in School (LIS), Burnout from Family (BFF), Burnout from Studying (BFS), Burnout from Family (BFF), Burnout from Homework (BFH), Burnout from Teacher Attitudes (BFTA), Need to Rest and Time for Fun (NRTF), and Feeling of İnadequacy at School (FIS)". The sub-dimensions consist of 6, 6, 5, 5, 4, 4 and 4 items, respectively, and seven items are reverse scored. Examples of items included in each sub-dimension are as follows: ["I find school fun.", "I find studying meaningless", "I am angry that my family does not believe that I study enough", "I see schoolwork as a heavy burden", "I can't

tolerate my teachers overly controlling behaviors.", "I am tired of doing homework.", "I often feel inadequate at school."]. Validity studies (EFA) and (CFA) of SBS were performed. Goodness of fit indices in the CFA are as follows: [(χ2/sd=2.25), GFI=0.93, AGFI=0.91, PGFI=0.90, RMSEA=0.05, CFI=0.94]. The Cronbach Alpha coefficients calculated for the sub-dimensions of the scale are .86, .82, .83, .67, .75, .72 and .72, respectively. In the present study, the Cronbach Alpha coefficients calculated for the sub-dimensions of the scale were .85, .83, .77, .79, .78, .73 and .70, respectively.

Effective study attitude scale for high school students (ESAS). ESAS is a unique scale developed by the researchers in this study to determine high school students' effective study attitudes. The scale consists of 15 items and is scored as a 4-point Likert [(Totally agree (4), Agree (3), Disagree (2) and Strongly disagree (1)], with a high score obtained on the scale indicating a high level of effective study. It shows a three-factor structure that explains 55% of the total variance in effective study. The factors are "Belief in the Value of Learning and Persistence in Learning", "Planning and Implementing Time in Learning" and "Flow in Learning". In the validity studies of the scale, Explanatory Factor Analysis [EFA] and Confirmatory Factor Analysis [CFA] were used. Firstly, to create the item pool of the ESAS, 15 high school students were asked to write their feelings, thoughts and behaviors regarding their effective study habits in an open-ended manner. In addition to the information obtained from the students, the theoretical information and research findings on effective study attitudes in the literature were also used, and a 19-item draft form was created. Two experts, one from the field of educational psychology and the other from the field of guidance and psychological counselling, were consulted to evaluate the items in terms of their suitability for the purpose. In line with the expert opinions, it was decided that the items should remain the same in the scale, and a piloting was conducted with 30 high school students to determine the intelligibility of the items in the draft form by the students. The data collected from 368 students in the study were divided into two groups for EFA and CFA, and 195 of them were used for the CFA analysis. The Varimax Rotation Technique in EFA was applied to the first group of data for the construct validity of the ESAS. The reason for applying the Varimax Rotation Technique in the EFA process is to explain the interrelationships of the items and to determine what kind of factor structure will emerge (Büyüköztürk, 2014). After performing the EFA, it was observed that the scale showed a three-factor structure and CFA was applied to obtain additional evidence about the extent to which the collected data conformed to this structure. The goodness of fit indices obtained in the CFA are as follows: [χ2/df=1.5, RMSEA=0.05, CFI=0.98, NNFI=0.97, IFI=0.98, GFI=0.92, NFI=0.94, SRMR=.05]. The Cronbach Alpha internal consistency tests and test-retest reliability method were used for the

reliability analysis. The Cronbach's Alpha internal consistency coefficients for the ESAS factors and total score were .84, .72, .72, and .86, respectively. In addition, for the reliability of the scale, test-retest reliability was calculated with the data collected for the second time from a group of 100 students at three-week intervals and the consistency between the two measurements was checked with the test-retest technique. Accordingly, the coefficients calculated for the factors and the total score of ESAS are .88, .88, 87 and .91, respectively. The item distributions by the factors of the scale are as follows: the first factor is "Belief in the value of learning and persistence in learning (BIVLPIL) (5th, 6th, 7th, 8th, 9th, 10th, 11th and 12th items)", the second factor is "Time Planning and Application In Learning (TPAIL) (1st, 2nd, 3rd and 4th items)," and the third factor is "Flow in Learning (FL) (13th, 14th and 15th items)". The scale can also be scored on a sub-dimension or total score. In addition, there is no reverse scored item in the scale. In brief, ESAS consists of 15 items in total, and has a three-factor structure.

Process

To analyze the predictive role of school burnout on the effective study attitudes, first of all, an effective study attitudes scale was developed. For the scale item pool to be created for this purpose, firstly, information was collected within the framework of the literature on subjects and concepts such as productive study, study habits, effective study, and learning to learn, within the scope of the field of educational guidance (based on educational psychology and learning psychology literature). Afterwards, students' views on effective study attitudes were collected both in writing and through interviews. Based on this information, an item pool of 19 items was created. Two experts, one in the field of educational psychology and the other in the field of guidance and psychological counseling, were consulted to evaluate the items regarding the extent they serve their intended purpose. Based on these opinions and suggestions, the items were decided to be kept in the scale without any change Finally, the validity and reliability analyses of the ESAS were performed, which yielded a 15-item scale. The data were collected on a voluntary basis and the anonymity of the participants was ensured. After securing the permissions from the institution, the data were collected in the classroom environment, which took 20 to 25 minutes. In addition, an informed consent was obtained from each participant, and ethical rules were followed during the study.

Data Analysis

One of the two main purposes of this study is to develop the Effective Study Attitude Scale for secondary school students. Therefore, descriptive statistics, Explanatory Factor Analysis,

Confirmatory Factor Analysis, and reliability analyses were performed. For the construct validity of the scale, EFA was applied to the first group of data and the Varimax Rotation Technique was used. Then, CFA was applied to the second group of data and it was checked whether the structure revealed in EFA was confirmed (for details of the fit criteria, see Jöreskog and Sörbom, 1996; Raykov and Marcoulides, 2006). The second purpose of the study is to examine whether school burnout predicts effective study attitudes in high school students. To test this aim, Multiple Linear Regression Analysis was performed. The level of significance for the statistical procedures in the current study was determined as .05.

Results

Results of the Validity Studies of the Effective Study Attitude Scale for Secondary School Students (ESAS) EFA was applied to explain the interrelationship between the items and to determine the factor structure for the construct validity of the ESAS. To test the suitability of the data for the factor analysis, the Kaiser-Meyer-Olkin (KMO) coefficient and Bartlett's sphericity test, which reveals multiple normality and multicollinearity, were performed (Cokluk et al., 2010; Büyüköztürk, 2014). The KMO value of the ESAS was 0.90, and the Bartlett's Test result (χ^2 =2447,471, $p<.001$) was significant. Based on the results obtained through the Varimax Rotation technique, a total of 4 items were excluded from the analysis, including items with factor loadings of less than .45 and the items with factor loads closer than .10 in both factors (Cokluk et al., 2010). After removing these items and repeating the Varimax Rotation technique in the EFA for the remaining 15 items, three factors with an eigenvalue greater than 1 and explaining 55% of the total variance were obtained. The eigenvalues of the principal components are 4.01, 3.10, and 2.47. The common variances of the three factors defined in relation to the items are between .36 and .80. The variances explained by the factors are 25.95%, 14.88% and 13.66%, respectively. The scale factors consisted of eight, four and three items, respectively. The EFA results using the Varimax Rotation Technique are presented in Table 1.

Table 1.

ESAS' Exploratory Factor Analysis Results

Load Values After Rotation					
Factor Name	Item No	Factor-1	Factor-2	Factor-3	Common Variance
Belief in the Value of Learning and Persistence in Learning (BIVLPIL)	7	.70			.53
	8	.70			.56
	5	.70			.57
	6	.68			.52
	9	.68			.49
	12	.65			.57
	11	.60			.52
	10	.57			.44
Time Planning and Application in Learning (TPAIL)	2		.70		.55
	1		.70		.59
	4		.51		.54
	3		.48		.42
Flow in Learning (FL)	14			.89	.80
	15			.82	.73
	13			.53	.36
Cronbach Alpha		.84	.72	.72	Total .86
Explained Variance		% 25.95	% 14. 88	% 13.66	Total % 54.49

Since the items in the first dimension (items 5, 6, 7, 8, 9, 10, 11, and 12) include statements emphasizing the students' belief in the value of learning itself and their insistence until they learn a piece of information, this factor was named as the "Belief in the Value of Learning and Persistence in Learning". (BIVLPIL). Examples of two items in this factor are as follows: "I think learning well in a course is more important than getting a high grade.", "When I study a subject, I study until I am sure that I understand it.". Since the items in the second sub-dimension (items 1, 2, 3 and 4) include items emphasizing the students' making time plans related to their learning goals and their effective implementation of these plans, this factor was named as "Time Planning and Application in Learning" (TPAIL). Examples of two items in this factor are as follows: "When planning my time for daily work, I always make time for my studies related to school subjects.", "If I have to study or do homework, I do it without delay.". The items in the third sub-dimension (items 13, 14 and 15) are named as Flow in Learning (FL) because its items emphasize the students' enjoyment of learning during the learning activity and maintaining their interest in learning before and after the learning

activity. The examples of two items in this factor are as follows: "I concentrate on my studying so much that I can't realize how time flies.", "I come to classes after preliminary preparation.".

The correlations of the sub-dimensions of the ESAS with the total score and with each other are given in Table 2. As seen in Table 2, the factors also show a moderate relationship with each other. While two factors are highly correlated with the total score, one factor is moderately correlated with it.

Table 2.

ESAS Correlations of Factors with Each Other

	BIVLPIL	**TPAIL**	**FL**
BIVLPIL	1		
TPAIL	.57**	1	
FL	.35**	.39**	1
ESAS TOTAL	.91**	.79**	.61**

The CFA was applied to the second group of data to obtain additional evidence about the extent to which the three-factor structure of the scale determined by the EFA was compatible with the collected data. Maximum Likelihood estimation method is used in the CFA (Karakaya-Özyer & Aksu-Dunya, 2018). The path coefficients obtained as a result of the CFA analysis are presented in Figure 1 (LISREL v8.54).

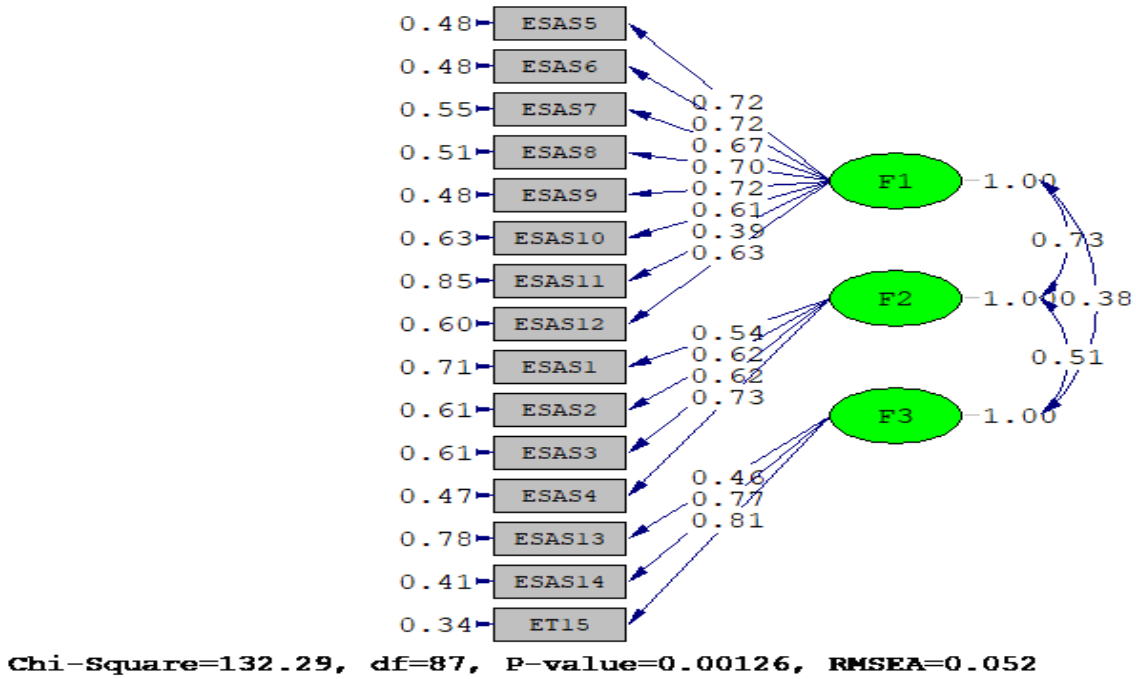

Figure 1. First-Level Confirmatory Factor Analysis Standardized Factor Loads for ESAS.

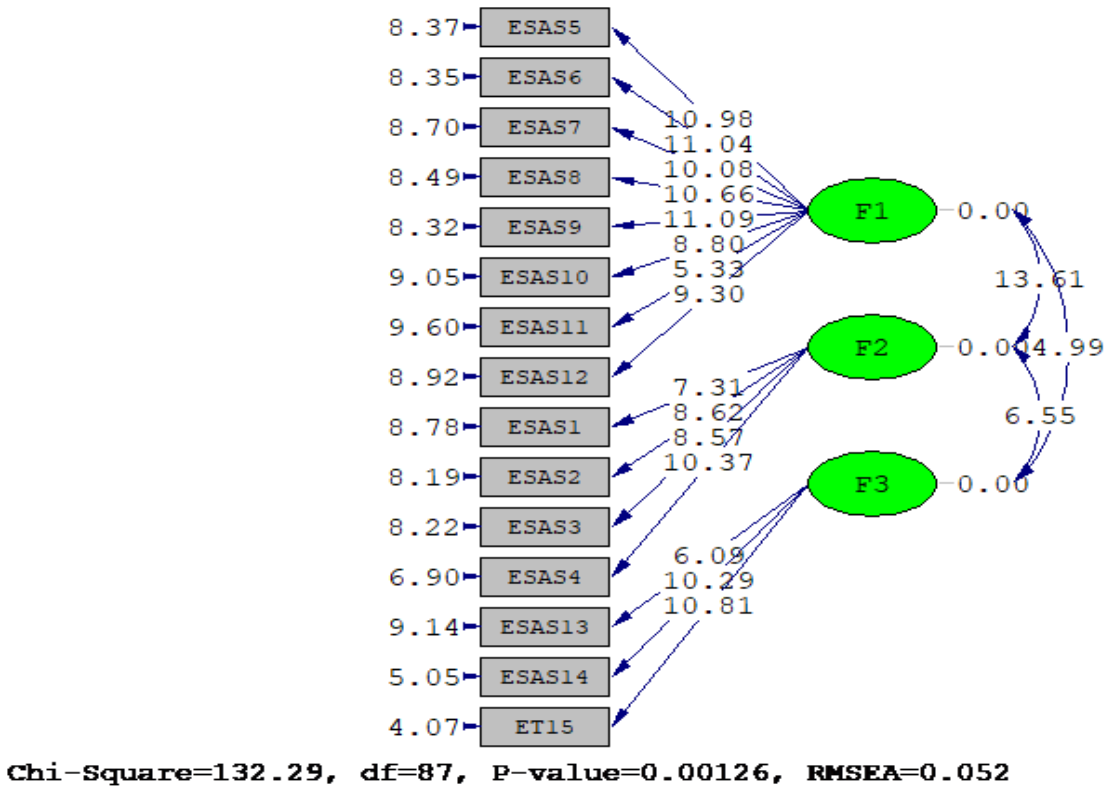

Figure 2. First-Level Confirmatory Factor Analysis T-Values for ESAS.

As can be seen in Figure 1, the factor loadings of the ESAS are between 0.39 and 0.81. The t-values in Figure 2 show that these load values are statistically significant. The fit indices of the model obtained from the Confirmatory Factor Analysis were examined and the Chi-Square value was calculated as [$\chi 2$=132.29, df=87, p<.01]. Other goodness-of-fit indices of the model [$\chi 2$/df =1.5, RMSEA=0.05, CFI=0.98, NFI=0.94, NNFI=0.97, IFI=0.98, GFI=0.92, SRMR=0.05] showed good fit with the data (for details of the fit criteria, see Jöreskog and Sörbom, 1996; Raykov and Marcoulides, 2006).

In addition, to determine whether the three factors obtained are included in the effective study latent variable or not, the second-level CFA analysis was performed. The path coefficients obtained for the analysis are presented in Figure 3 (LISREL v8.54).

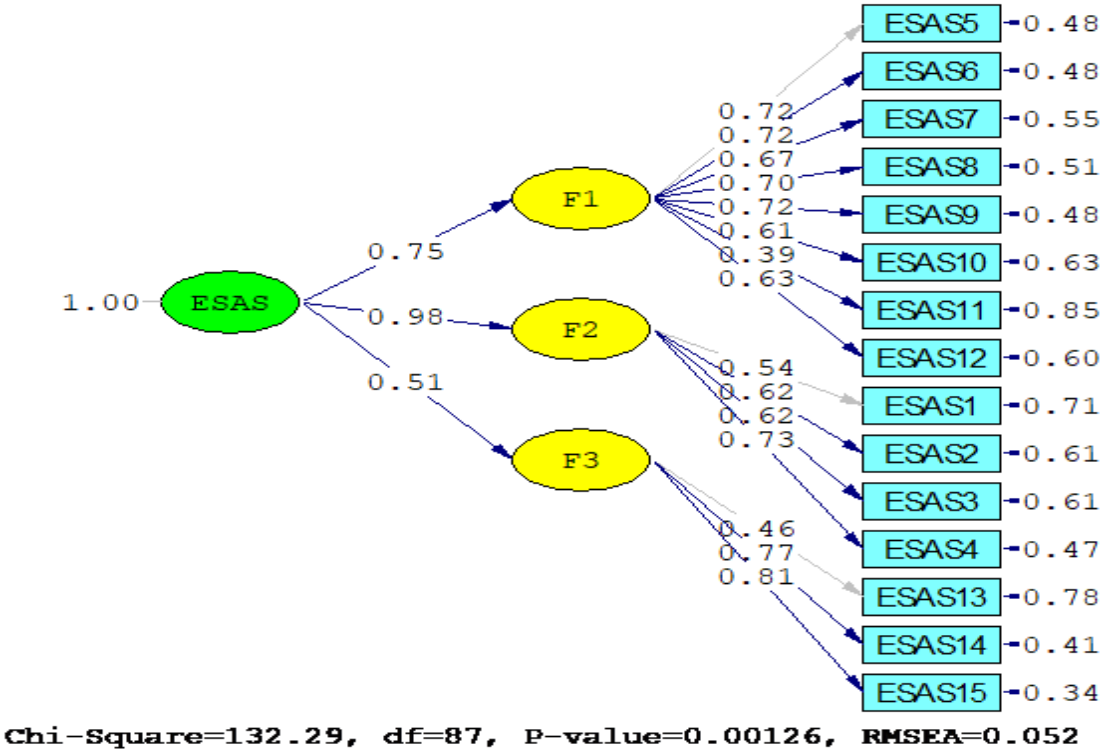

Figure 3. Second-Level Confirmatory Factor Analysis Standardized Factor Loads for ESAS.

The factor loads of the ESAS in Figure 3 are between 0.39 and 0.81. The t-values showed that these load values were statistically significant. The fit indices of the model obtained from the second-level Confirmatory Factor Analysis were examined, and the Chi-Square value was calculated as [$\chi 2$=132.29, df=87, p<.01]. Other goodness-of-fit indices of the model [$\chi 2$/df=1.5, RMSEA=0.05, CFI=0.98, NNFI=0.97, IFI=0.98, GFI=0.92, NFI=0.94, SRMR=0.05] (For details of the fit criteria, see Cokluk et al., 2010; Jöreskog & Sörbom, 1996; Raykov & Marcoulides, 2006). Accordingly, the goodness of fit values and path coefficients clearly confirm the modelled factor structure.

Findings Obtained from the Reliability Analyses of the ESAS

The obtained form, consisting of three dimensions and 15 items, was subjected to reliability analysis. The Cronbach Alpha internal consistency coefficient and test-retest techniques were used in the reliability analyses of the ESAS. The Cronbach Alpha internal consistency coefficients calculated for the factors and the total score of the ESAS were .84, .72, .72 and .86, respectively. In addition, for the reliability of the scale, test-retest reliability was calculated with the data collected for the second time from a group of 100 students at three-week intervals. In the test-retest reliability method, the consistency between the two measurements is checked (DeVellis, 2016). Accordingly, the test-retest scores calculated for the factors and the total score of the ESAS were .88, .88, .87, and .91. The

reliability of a measurement tool is expected to be over .70 (Büyüköztürk, 2014; DeVellis, 2016). Accordingly, the reliability coefficient of the ESAS can be said to be at a good level.

Findings Regarding the School Burnout's Prediction of Effective Study Attitude

Multiple regression analysis was conducted to determine whether school burnout predicted study attitude. Prior to that, the assumptions regarding multiple linear regression were tested (Büyüköztürk, 2014). Whether the data were linearly distributed or not was examined with the help of the scatter diagram. In addition, since the skewness values for the normal distribution were between -.922 and .182 and the kurtosis values varied between -.185 and .193, it was concluded that the data showed a normal distribution (Tabachnick & Fidel, 2014). Finally, the multicollinearity assumption was examined. If the correlation values between independent variables are less than 70, then there is no multicollinearity. In addition, since the tolerance values are greater than .20, the variance inflation factor (VIF) are less than 10 and the condition indices (CI) are less than 30 (Büyüköztürk, 2014), no multicollinearity problem between the variables was observed. The correlation matrix between effective study attitude and school burnout is given in Table 3, and the Multiple Linear Regression analysis results for school burnout's prediction of the effective study attitude are presented in Table 4.

Table 3.

Correlation Matrix between Effective Study Attitude and School Burnout (Sub-Dimensions)

	1	***2***	***3***	***4***	***5***	***6***	***7***
1- Effective study attitude total score	-						
2- Loss of interest in school	-484**	-					
3- Burnout from studying	-621**	.567**	-				
4- Burnout from family	-.283**	.324**	.312**	-			
5- Burnout from homework	-.516**	.593**	.624**	.356**	-		
6- Burnout from teacher attitudes	-.412**	.553**	.462**	.502**	.577**	-	
7- Need to rest and time for fun	-.162**	.376**	.312**	.340**	.488**	.441**	-
8- Feeling of inadequacy at school	-.182**	.260**	.275**	.343**	.300**	.396**	.350**

Note. **p<.01, Loss of interest in school: School burnout scale's first factor, Burnout from studying: School burnout scale's second factor, Burnout from family: School burnout scale's third factor, Burnout from homework: School burnout scale's fourth factor, Burnout from teacher attitudes: School burnout scale's fifth factor, Need to rest and time for fun: School burnout scale's sixth factor, Feeling of inadequacy at school: School burnout scale's seventh factor.

Table 4.
Multiple Linear Regression Analysis Results for School Burnout to Predict Effective Study Attitude

Variable	***B***	SH_B	***β***	***t***	***p***	***Dual R***	***Partial R***
Constant	61.388	1.859		33.018	.000		
Loss of interest in school	-.233	.106	-.129	-2.207	.028	-.484	-.126
Burnout from studying	-.849	.115	-.430	-7.398	.000	-.621	-.392
Burnout from family	-.136	.112	-.062	-1.219	.224	-.283	-.070
Burnout from homework	-.421	.146	-.187	-2.891	.004	-.516	-.164
Burnout from teacher attitudes attitudes	-.213	.154	-.084	-1.380	.169	-.412	-.079
Need to rest and time for fun	.454	.145	.162	3.141	.002	.162	.178
Feeling of inadequacy at school	.068	.138	.024	.490	.625	-.182	.028

n= 309, R = 0.669, R^2 = 0.448, $F_{(7\text{-}301)}$ = 34.881, p <0.05; Loss of interest in school: School burnout scale's first factor, Burnout from studying: School burnout scale's second factor, Burnout from family: School burnout scale's third factor, Burnout from homework: School burnout scale's fourth factor, Burnout from teacher attitudes: School burnout scale's fifth factor, Need to rest and time for fun: School burnout scale's factor, Feeling of inadequacy at school: School burnout scale's seventh factor.

When Table 4 is examined, loss of interest in school, exhaustion from studying and exhaustion from doing homework, which are the sub-dimensions of the school burnout variable, predicted effective study attitude in a significant way, and it was observed that the need to rest and time for fun predicted effective study attitude positively (R=.669, R2=.448, F= 34.881, p<.05). Considering the relations of the variables with the effective study attitude individually, it was concluded that the burnout from studying (β=-.430; p<.01) dimension in the regression equation best explained the effective study attitude negatively and significantly. This is followed by exhaustion from homework (β=-.187; p<.05), need to rest and time for fun (β= .162; p<.05), and loss of interest in school (β=-.129; p<.05). Therefore, the school burnout explains approximately 45% of the total variance in the effective study attitude.

Discussion and Conclusion

The purpose of this study was twofold: One was the development of the Effective Study Attitude Scale for secondary school students and conducting an analysis of its validity and reliability. The analyses showed that the developed scale is a valid and reliable tool that can be used to measure high school students' effective study attitudes. The first dimension of the effective study attitude scale was "Belief in the Value of Learning and Persistence in Learning", which emphasized the belief and insistence that learning is a valuable act. The second dimension of the scale was "Time Planning and

Application in Learning", which includes time planning and practices related to learning objectives. Finally, the third dimension of the scale was "Flow in Learning", which includes the pleasure that students get from learning during the learning activity.

The second purpose was to determine to what extent school burnout predicted high school students' effective study attitude. The results of the Multiple Linear Regression Analysis showed that effective study attitude was mostly explained by exhaustion from studying, exhaustion from doing homework, the need for rest and entertainment, and loss of interest in school, respectively. The results of the analysis show that as high school students' burnout from studying, exhaustion from doing homework and loss of interest in school increase, their levels of effective study attitude decrease. However, as their level of need for rest and entertainment increases, the level of effective study attitude also increases.

Studies have shown that when school burnout increases, students study less, and their academic success drops as well (Bilge et al., 2014; May et al., 2015). The relationships between school burnout and effective study habits are discussed indirectly in the international literature (Salmela-Aro et al., 2009b; Zhang et al., 2007; Walburg, 2014; Virtanen et al., 2016). These studies have mostly focused on the possible consequences of students' failure at fulfilling their school responsibilities due to burnout. Directly addressing the relations between school burnout and effective study attitude in the present study makes a unique contribution to the literature.

The current study found that effective study attitude was mostly associated with the 'exhaustion from studying' dimension of the school burnout. In other words, it was observed that as students' exhaustion from studying increased, their level of effective study attitude decreased. Some findings in the literature (Bilge et al., 2014) show that students who do not have the appropriate study habits and have low self-efficacy beliefs have a higher burnout level. However, these findings are about the relationship between general burnout level and study habits. Another study found that as high school students' exhaustion from studying increases, their motivation to attend classes decreases (Aypay & Eryılmaz, 2011). The present study shows that the level of exhaustion from studying, which is one of the sub-dimensions of school burnout, is a variable that predicts the effective study attitude. This finding is in parallel with the finding of Aypay and Eryılmaz that students who are exhausted from studying are less motivated to participate in the lesson.

The findings of the current study also indicate that there are negative significant relationships between "loss of interest in school", which is one of the sub-dimensions of school burnout, and the

effective study attitude. In other words, as the loss of interest in school increases, the level of effective study attitude of high school students decreases. The "loss of interest in school" dimension of the burnout highlights the decrease in students' interest in school, their reluctance to go to school, their unhappy feeling at school, their lack of love towards the school and their evaluation of school as a boring environment. Salmela-Arove & Upadyaya (2014) found a negative correlation between school burnout and participation in school work in their study conducted in a high school sample in a longitudinal design. The dimension of loss of interest in school may weaken students' sense of belonging to school and negatively affect their effective study attitudes. The related research has shown that there are negative and significant relationships between school belonging and loneliness and hopelessness in high school students (Altınsoy & Karakaya-Özyer, 2018). Furthermore, the studies conducted with high school samples have reported positive and significant relationships between belonging to school and being motivated to study (Eryılmaz & Altınsoy, 2018a), being able to create life goals (Altınsoy & Eryılmaz, 2017) and life satisfaction (Eryılmaz & Altınsoy, 2018b). Accordingly, the interpretation that the effective study attitudes of the students who cannot connect with the school, do not feel belonging to the school, and do not have positive feelings towards the school may also be negatively affected by this situation seems reasonable.

The current study found a negative correlation between the sub-dimension of exhaustion from doing homework and effective study attitude. In other words, as students get tired of doing homework, their level of effective study attitude declines. The dimension of burnout from doing homework emphasizes that students find the homework given at school meaningless, postpone homework because they get tired of doing homework, see homework as a burden, and feel inadequate while doing homework. Studies by Xu and Yuan (2003), Cooper et al., (2012), Davidovitch and Yavich (2017), and Baynazoğlu (2019) have found that school homework negatively affects students' feelings, thoughts, and behaviors towards academic life. A study conducted with secondary school students determined that there was a positive relationship between the time allocated to homework and school burnout (Özdemir, 2015). In addition, Cooper (1994) points out that school assignments can have negative effects on students such as emotional and physical fatigue and alienation from academic studies. When evaluated together with the literature findings, it can be said that students may want to study less as their level of homework burnout increases, and therefore, their effective study attitudes are negatively affected.

In the present study, it was observed that there was a positive and significant relationship between the need for rest and entertainment sub-dimension of school burnout and the effective study

attitude. In other words, as the level of students' need for rest and entertainment in school burnout increases, their level of effective study attitude also increases. Due to spending too much time on school activities, students' increasing need for rest and entertainment causes them to experience school burnout. However, this dimension of burnout also creates an awareness in students that they need to meet their rest and entertainment needs. Thus, students who feel burned out in terms of an unmet rest and entertainment need may actually engage in activities to reduce the school burnout they experience due to this increasing need. This may contribute to refreshing their effective study attitudes.

The findings also show that the sub-dimensions of family burnout, boredom with teacher attitudes, and inadequacy at school are not significant predictors of students' effective study attitudes. Taken together with the previous findings, it seems that students' effective study attitudes directly affect students' feelings, thoughts and behaviours about school and school-related activities.

The fact that this study was conducted on a limited sample constitutes a limitation in terms of generalizability. However, the development of a measurement tool for high school students' effective study attitudes and the determination of the predictive relationships between school burnout and effective study attitudes make original contribution to the literature. Based on the findings, it can be suggested that the school burnout variable should also be considered in studies aiming to improve effective study skills. Since variables such as gender, age and class are not included in the current analysis, the scope of future research can be expanded by adding these sociodemographic variables. In addition, educators and parents are recommended to avoid placing students under the burden of excessive study and homework and to meet the rest and entertainment needs of students so that they can help them develop and maintain effective study attitudes. Finally, with this measurement tool developed, the literature findings can be expanded by examining the effective study skills of high school students and their relations with various variables.

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Conflict of Interest

There is no conflict of interest between the authors.

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Ethical and legal principles were followed in this research.

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