

## **Examination of the Relationships between Secondary School Students' Social Media Attitudes, School Climate Perceptions and Levels of Alienation**

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The aim of this research is to examine the relationships between social media attitudes, school climate perceptions and level of alienation of students studying in secondary schools. In the 2018-2019 academic year, 418 students from various secondary schools in Mardin participated in the study. Descriptive statistics and structural equality model were used in the analysis of the data. As a result of the research, it was determined that the level of alienation variable is positively affected by sharing needs, social isolation and safe learning environment; the safe learning environment variable is negatively affected by the social competence variable while it is affected positively by the social isolation variable. Besides, the safe learning environment as a mediator resulted in negative effects between the need for sharing and alienation, positive ones between social isolation and alienation, negative ones between social competence and alienation, and finally negative effects between relationships with teachers and alienation. According to the results, it can be stated that creating a supportive school climate for students in educational settings will reduce students' tendency to use social media networks and prevent them from becoming alienated by making more friend.

*Keywords:* alienation, social media, school climate, structural equality model

### **Introduction**

Today, rapid developments in the field of technology and the products produced related these developments have become more easily accessible thanks to the developed countries' economies. As technology products become an indispensable element of daily life, they bring along numerous changes in the lives and tendencies of society and individuals. The use of social media or social networks representing one of these changes has led to the emergence of new forms of relationships in the virtual world. Hatipoğlu (2009, p. 72) states that social media networks provide an opportunity for the formation of communities that cannot be measured in virtual environments. Social media/social networks in particular have become new centers for teenagers (Boyd & Ellison, 2008). Studies (Li, 2007; Lenhart, Purcell, Smith, & Zickuhr, 2010) show that social media use is rapidly increasing especially among the 9-16 age group (school age group) due to the opportunities it provides to its users. It is known that different motivations such as content and information sharing, information acquisition, dialogue between

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small groups, and social support are among the goals of students using social media (Kaplan & Haenlein, 2010, p. 61; Kim, Kim, Park, & Rice, 2007; Tosun, 2010, p. 388).

### **Social Media**

Social networks are defined as internet-based applications that allow their users to create a profile that other users can see and establish connections with other users (Ellison, Steinfield, & Lampe, 2007). School life, which covers a large period of time in students' lives, and the interaction it involves, also create an opportunity for students to come together in virtual environments that they create through social media. Online social networks not only support the continuation of existing relationships but also prepare an environment for the establishment of new connections (Toprak, Yıldırım, Aygül, & Binark, 2009, p. 29). In addition, the interaction between students in the virtual environment causes the formation of new forms of communication between their peers. On the other hand, the application and integration of technologies in education is seen as an integral part of successful school systems (Valdez, 2002). In addition to increasing interaction between students and teachers, the use of social media in educational settings offers a variety of opportunities as pedagogical tools (McLoughlin & Lee, 2008, p. 69). These are listed as social support, collaborative information sharing and content creation. Just as students' social media usage trends stem from their personal choices, the school environment can also encourage this. Such that, negative interpersonal relationship styles, teacher behaviors, instructional dimensions and the continuity cycle created by them can directly or indirectly affect the tendency to use social media (Hoy, 2003; Loukas, Suzuki, & Horton, 2006, p. 491).

The spread of social media use in the early years of education brings also a number of threats along with it. It is stated that as a result of the increase in the rate of participation in social networks of students in the younger age group, negative relationship styles develop in students (Amichai-Hamburger & Hayat, 2011; Baker & White, 2010; Van-Cleemput, 2010), academic success is negatively affected (Ryan, 2007), negative attitudes and perceptions develop (Balçıkınlı, 2010), and analytical thinking skills are weakened (Sağlık, 2014). Apart from these, the alienation of students also emerges as an important threat.

### **Alienation**

The alienation may arise from multiple reasons such as academic success expectation, motivation, lack of feedback, limited academic programs, adolescent period characteristics, and peer relationships (Jacobs et al., 2002; Murdock, 1999; Russell, 1994). Schulz and Rubel (2011) define alienation as a process caused by the school environment, teacher attitudes, and social processes, which includes the academic and social alienation of students from schools. Similarly, Mackey (1974) states that the dynamics of alienation (anger, weakness, etc.) negatively affect learning in the educational environment and restrict social activities. Tezcan

(1997) states that one of the important factors affecting alienation is the relationships between students.

### **School Climate**

The school environment, which includes components of the school climate and creates a strong communication network for students, aims to develop positive interactions between students and school employees in addition to offering opportunities that support the multi-faceted development (social, academic, etc.) of students. School climate is basically defined as a dynamic concept based on human relations, reflecting the collective behavior perceptions of individuals at school, developing in the process and affecting individuals and creating a continuous cycle between these elements (Ellis, 1988; Hoy, 2003).

Although the concept of school climate is used instead of educational organization, it is difficult to come across a common definition that experts agree on it. According to some researchers (Balci, 2007), while school climate is seen as a process that reflects the school's learning and student success, another group of researchers (Bursalioğlu, 2002; Hoy, 2003; Loukas, Suzuki, & Horton, 2006, p. 491) define it as a set of characteristics which distinguish a school from others, based on interpersonal relationships, and which affect school members' behavior. School climate is also expressed as a concept that opens to the outside world and reflects the character of the school (Omay, 2008).

Describing the characteristics of the school climate, Welsh (2000) stated that the school climate is a determinant in the interaction between students, teachers and administrators, and contains unwritten elements such as beliefs, values and behavior patterns. On the other hand, Balci (2007) states that the interactional process between school members will be decisive in the behavioral patterns that will occur in the school environment and are based on common denominators. Although the definitions differ, there is a common emphasis that the school climate has an important effect on the attitudes and behaviors of its members.

### **Relationships between Social Media, Alienation and School Climate**

Schools, which are an important learning area for students, besides improving students' academic, emotional, and behavioral skills; are also responsible for providing love for school, an atmosphere of trust, and a productive school climate (Arman, 2007; Blum, 2005). The school climate basically has effects on individuals and on the efficiency of the school in general. Hoy, Tarter, & Kottkamp (1991) stated that a learning environment in which teachers provide satisfaction has a positive effect on student success. In addition, Hoy, Tarter, & Kottkamp (1991) states that healthy school climate is associated with high student achievement as well as a low level of alienation of students.

A supportive school environment will affect student achievements, participation in activities, and the development of instructional activities directly or indirectly by strengthening teachers' perceptions of competence (Bandura, 1997). The effects of school climate on students' socialization and self-realization cannot

be denied. The fact that the school climate aims to be focused on student priorities, to support social activities, and to provide an environment of positive interaction between school employees has functions that prevent students from alienating from the school (Newmann, 1981; as cited in Polat, 2018). However, the widespread use of social media among students, in addition to increasing the interaction between students and teachers, as predicted by the healthy school climate, may lead to a decline in academic skills (Ryan, 2007), weakening of peer relationships (Russell, 1994), loneliness (Dean, 1961, pp. 753-754), and the alienation (Seeman 1959, pp. 275-276) stated above. In this context, social media, which have a permanent place in students' lives, and the power of interaction, appear as an important factor that directly and indirectly affects alienation from education in students.

### Literature Review

Studies aiming to investigate indirect effects are considered to be important in terms of focusing on the dynamics of the relationships between these two variables. In the study conducted by Bilgin and Taş (2018), a positive relationship has been found between the safe learning environment, supportive teacher behaviors, and achievement-orientedness, which are among the dimensions of the school climate, and school engagement, but no relationship has been found between social media addiction and school engagement. Besides, in the aforementioned study, a negative relationship has been found between social media addiction and the safe learning subscale of the school climate.

When taking into consideration the results based on the relationship between the use of social network sites and loneliness, which reflects the social distance dimension of alienation, Doğan and Karakuş (2016) concluded in their study that loneliness predicts the use of social networks, and there is a significant relationship between loneliness and the use of social networks. According to the results of the research conducted by Al-Rahmi and Othman (2013) and Frein, Jones, and Gerow (2013), negative correlations were found between social media use and academic achievement.

In order to determine the effects of school climate on student attitudes and satisfaction, in the study conducted in Finland, Latvia, Norway, and Slovakia by Samdal, Nutbeam, Wold, and Kannas (1998), it was seen that the students in Latvia and Norway were more satisfied than the students in the other two countries. It was determined that the predictors of this situation were teachers' positive attitudes, their fairness, and students' feeling safe. In the research conducted by Argon and Çelik Yılmaz (2016), a negative and low-level relationship has been found between the students' perception of peer relationships and their attitudes towards school. The results of the research conducted by Gürültü and Deniz (2017) to examine the relationships between academic procrastination and social media use, which negatively affects academic achievement, revealed that students who use social media for a long time have higher academic procrastination behaviors.

In the study conducted by Atalay (2014), it has been found that there is a positive relationship between the need for sharing and friend support, which is among the dimensions of social media, a negative relationship between social isolation and the relationship with teachers, and a positive relationship between teacher support and teacher relations. In the study conducted by Türkel and Dilmaç (2019) with 600 high school students, a positive and linear relationship was found between social media use and loneliness. Similarly, in the study conducted by Atik and Özer (2020) with 2291 high school students, it was determined that there is a negative relationship between alienation from school and trust in teachers, and between alienation from school and attitude towards school, and a positive relationship between academic achievement and attitude towards school. And again, Marcin, Morinaj, and Hascher (2020) have investigated the alienation in learning and its relation with the perception of the support provided by students' teachers and peers by analyzing the data obtained from 486 primary school and 550 secondary school students in Switzerland.

According to the results, the importance of supportive teacher attitudes in preventing students' alienation from learning at school is emphasized. As a result of the research conducted by Allen et al. (2014) with adolescents, it is argued that social networks create a paradox for social relationships. Social networks can create a source of alienation and exclusion, while facilitating individuals to form online groups. In the study conducted by Sappington (2020) with 442 undergraduates, preference for online social interaction, peer interaction, and social loneliness were significantly correlated. The results show that socially lonely individuals can use social media tools as a tool to meet their peer relationships.

### **The Present Study**

It has been determined that studies on school alienation, attitudes towards social media, and school climate focus on variables such as academic achievement, peer interaction, student-teacher interaction, social media addiction, educational environment, and burnout. In addition to these studies, simultaneously examining the mediating role of school climate in the influence of secondary school students' attitudes towards social media on alienation will be useful in determining the complex relationships between variables (predictors). However, the data of this study, which consists of a cross-section between 5<sup>th</sup> and 8<sup>th</sup> grade, is expected to contribute positively to the clarification and development of theory and practices by contributing to studies that focus on high school and university students in the literature.

In this direction, the aim of this study is to examine the relationships between social media attitudes, school climate perceptions and alienation levels of students studying in secondary schools. However, it is thought that examining the relationships between the attitude towards social media and the school climate, between the attitude towards social media and the level of alienation, and between the school climate and alienation levels together will contribute to the literature in terms of both theoretical and practical aspects. With these thoughts, the hypotheses

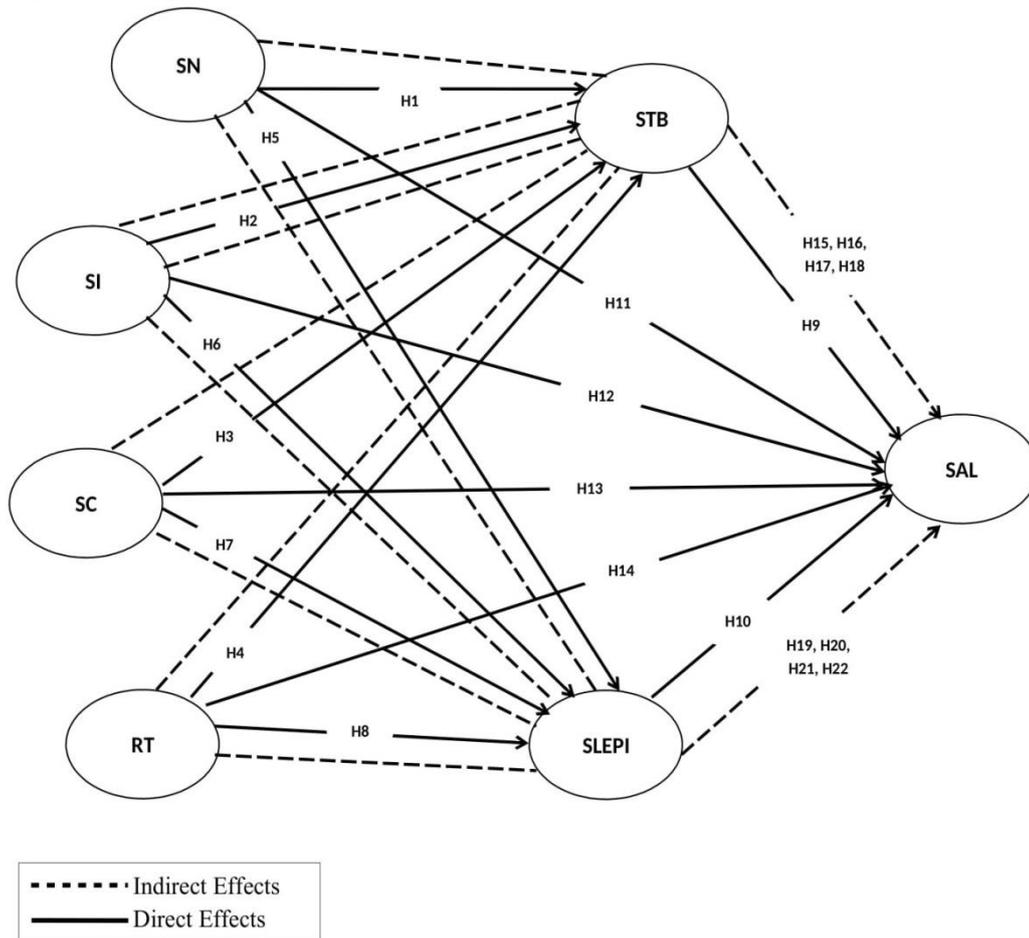
presented below and developed within the scope of the structural equation model (SEM) were determined. It is assumed that the model developed under SEM will fit well with the data while presenting the structure relationships. The hypotheses formulated for this purpose are presented below. It was investigated whether the relationships between the variables were positive or negative and directly or curvilinear with each other. As long as otherwise is not stated, all relationships were assumed to be statistically significant.

### Hypotheses

1. It has been assumed that the increasing need for sharing (SN) in students will significantly predict supportive teacher behaviors (STB).
2. The level of social isolation (SI) is expected to be significantly affected by the STB.
3. The increase in social competence (SC) level is expected to predict STB significantly.
4. Relationship with teachers (RT) variable is expected to affect STB significantly.
5. It has been assumed that the SN will significantly affect the safe learning environment and positive peer interaction (SLEPI).
6. SLEPI is expected to be affected by SI significantly.
7. Higher SC observed in students is expected to affect the SLEPI variable significantly.
8. RT is expected to be associated with SLEPI significantly.
9. The level of alienation (SAL) will be significantly affected by the STB variable.
10. SLEPI and SAL variables are expected to be correlated significantly.
11. The SN level is expected to predict SAL significantly.
12. SI will affect SAL significantly.
13. SC is expected to affect SAL significantly.
14. SAL is expected to be associated with RT significantly.
15. It has been assumed that the STB will have a mediating effect between SN and SAL variables.
16. SI is expected to affect SAL significantly through the STB variable.
17. SAL is expected to be affected significantly by SC through STB.
18. It has been assumed that the STB will mediate the interaction between RT and SAL.
19. It has been assumed that the SN will explain the SAL through the SLEPI variable.
20. SLEPI is assumed to be a variable that will affect the interaction between SI and the SAL.
21. It has been assumed that SAL will be affected significantly by SC through SLEPI.
22. RT is expected to affect SAL significantly through SLEPI.

Relationships hypothesized depending on this purpose are presented on Figure 1.

Figure 1. Hypothesis Model



Note: Arrows represent aspects of relationship. Symbols consisting of the letter ‘H’ and numbers (for example H1) represent the hypothesis relationship and number between variables. Dotted lines represent indirect effects, while straight lines represent direct effects.

## Methodology

### Research Model

Since this research is based on examining the relationships between two or more variables, it is a correlational study.

## Participants

The population of the research was formed by the students studying in official secondary schools in Artuklu district of Mardin province in the 2018-2019 academic year. In determining the sample size, a table of sample sizes created from different population sizes was used. In the direction of the related table, it was determined that 370 students could represent the population of 17,000 students with a reliability coefficient of 0.05 and a sampling error of 5% (Yazıcıoğlu & Erdoğan, 2004, p. 50). This study was conducted on the sample selected from the research population with the method of disproportionate cluster sampling. According to Karasar (2005, p. 114), disproportionate cluster sampling is the sampling in which all clusters for similar purposes in the population have an equal chance of being selected. Accordingly, the sample of the study consists of students studying in 3 public secondary schools. In the schools selected for sampling, the classes to be attended according to grade levels were determined by simple random sampling method. Simple random sampling is the condition in which every element in the population has equal chances to enter the sampling (Arıkan, 2004, p. 141). Due to possible problems in the application of the scales, they were distributed to 470 students during the implementation phase and 418 of these scales were included in the analysis. The distribution of students by grade level and gender is presented in Table 1.

Table 1. Distribution of Students by Class and Gender

Grades	Female		Male	
	f	%	f	%
5 <sup>th</sup> grade	59	52.2	54	47.8
6 <sup>th</sup> grade	51	51.5	48	48.5
7 <sup>th</sup> grade	60	55.0	49	45.0
8 <sup>th</sup> grade	55	56.7	42	43.3
<b>Total</b>	225	53.8	193	46.2

When Table 1 is examined, it is seen that 27% (n=113) of the students participating in the research are 5<sup>th</sup> grade, 23.7% (n=99) are 6<sup>th</sup> grade, 26% (n=109) are 7<sup>th</sup> grade and 23.2% (n=97) are 8<sup>th</sup> grade students. Of the total number of students participating in the study (418), 53.8% are female and 46.2% are male.

## Data Collection Tools

To collect data on the variables determined within the scope of the study, the *Social Media Attitude Scale*, *School Climate Scale*, *Student Alienation Scale* and *Personal Information Form* developed by the researchers have been used.

**Social Media Attitude Scale.** Social Media Attitude Scale (SMAS) was developed by Otrar and Argın (2015) for secondary school and high school students between the ages of 13-18. The scale consists of 4 factors with a total of 23 items. These are social competence (SC), sharing need (SN), relationship with teachers (RT), and social isolation (SI). Within the scope of the construct validity

of the scale, it was tried to determine whether the previously determined factors, especially the subscales, continued throughout this study or not. For this purpose, exploratory (EFA) and confirmatory (CFA) factor analyses were applied. As a result of EFA, it was determined that all items were loaded on relevant factors determined in the original scale; it has been observed that only one item (item 18) produces an overlapping value. Since the overlapping item was above the tolerance value (0.10) between the factor loadings, by keeping it out of analysis the analysis was repeated (Çokluk, Şekercioğlu, & Büyüköztürk, 2018). As a result of EFA, the factor loading value ranges for the scale sub-dimensions varied between 0.524-0.660 for the first factor, 0.529-0.734 for the second factor, 0.488-0.644 for the third factor and 0.482-0.858 for the fourth factor, and they were seen to represent 55.41% of total variance. CFA was applied to verify the scale and fit index values were checked. It was seen that the results met the minimum fit indices ( $X^2/df=2.15$ , RMSEA=0.053, CFI=0.928 and SRMR=0.053) recommended by Kline (2019). The Cronbach alpha coefficients calculated for scale reliability are: SN=0.86, SI=0.82, SC=0.80 and RT=0.73. Considering these data, it can be said that the coefficients are quite reliable and in a high reliability interval (Özdamar, 2016).

**School Climate Scale.** The School Climate Scale (SCS), developed by Çalık and Kurt (2010) for secondary school students, consists of 22 items and three factors. These factors are listed as supportive teacher behaviors (STB), achievement orientation (AO), and safe learning environment and positive peer interaction (SLEPI). As a result of EFA applied for structural validity, AO and STB subscales were combined under a single factor unlike the original scale, item 9 was eliminated since it produced overlapping values, and a total two-factor structure was obtained. It was determined that the factor loading values of the scale sub-dimensions varied between 0.385-0.682 for the STB and 0.358-0.620 for the second factor and 40.17% of the total variance was explained. When the items related to AO (for example, item 10: Our teachers expect us to be successful) are examined, it can be said that they are within the scope of supportive teacher behaviors (STB), as determined in the study of Hoy, Tarter, and Kottkamp (1991) on evaluating school climate. Results for CFA ( $X^2/df=2.28$ , RMSEA=0.055, CFI=0.905 and SRMR=0.054) met the relevant cut-off values. Cronbach's alpha coefficients for scale reliability have been calculated as 0.87 and 0.76, respectively.

**Student Alienation Scale.** The Student Alienation Scale (SAS), developed by Sanberk (2003) for high school students consists of 17 items and four sub-dimensions. The sub-dimensions are listed as powerlessness, meaninglessness, irregularity and social distance. As a result of the EFA applied, it was determined that all items were loaded on the relevant factors determined in the original scale; however, 2 items (4 and 12) were excluded from the analysis because they produced overlapping values. These two items belong to the social distance subscale, which consists of three items in total. The fact that the factor decreasing to a single item (item 8) after the related items are eliminated, does not comply with the suggestion that the factors should consist of at least three items (Byrne, 2010, p. 13). Therefore, factor analysis limited by three factors was repeated.

According to the results, the scale consisted of weakness, irregularity and meaninglessness subscales, and the 8th item (I will be happy when I do not have to go to school) got loaded on the irregularity subscale. It was determined that the factor loading values for the scale sub-dimensions varied between 0.355-0.560, 0.404-0.674 and 0.328-0.835, respectively. According to the CFA results ( $\chi^2/df=1.62$ , RMSEA=0.047, CFI=0.961 and SRMR=0.047), it can be said that the data are compatible with the model. The Cronbach alpha results for the reliability analysis are as follows: 0.60, 0.78, and 0.74, respectively. In this study, the total frequency score of SAL was used.

### **Data Collection**

The distribution of measurement tools used to collect research data was carried out after necessary permission was obtained from the Mardin Provincial Directorate of National Education. The relevant schools were visited by one of the researchers, and the students were informed about the purpose of the research, its duration, the content of the scales and the confidentiality of the data. It has been reported that answering the scales is on a voluntary basis and it is not necessary to provide identifiable information for individuals. Written consent was obtained from the students and those who did not want to participate in the research were excluded from the research. Students received no incentives in return for their participation in the research. The study was approved by the ethics committee of the institute of educational sciences of Firat University.

### **Analysis of the Data**

SPSS 22 and AMOS 24 software were used to analyze the data obtained within the scope of the research. SPSS was used for item analysis and other analyzes, and AMOS was used for CFA and structural equation model (SEM). CFA, which is within the scope of SEM, is used to examine the compatibility of the measurement tool developed based on a theory with data (Tabachnick & Fidell, 2015). SEM, on the other hand, is the general name of techniques that allow the investigation of latent structures through observed variables (Jöreskog & Sörbom, 1993). It is possible to test a theoretical model through SEM based on causal relationships between observed variables (Schumacker & Lomax, 2010, p. 2). Therefore, SEM enables the complex relationships in theoretical tests to be understood by using scientific hypothesis testing method. In SEM applications, there are elements such as latent variable, measurement errors in dependent and independent variables, multiple indicators, mutual causality, concurrency and interdependence (Çokluk et al., 2018, p. 253). Before starting the analysis, the assumptions required by SEM, which is one of the multivariate statistical methods, should be examined. Tabachnick and Fidell (2015) and Çokluk et al. (2018, pp. 11-35) emphasize that the assumptions like missing values, extreme values, sample size, normality, linearity, multicollinearity and singularity should be tested. After the frequency (13 missing data) and distribution (random) of missing values were examined, values reflecting the mean of the series were assigned to replace

the missing data, suggested by Tabachnick and Fidell (2015). In the control of the extreme values of the variables in the data set, it is stated that the values above +3 and below -3 should be excluded from the analysis by examining the Z scores of the data (Johnson & Wichern, 2007). In this context, by examining Z scores, no values were found above +3 and below -3. Additionally, Mahalanobis distance was calculated in multiple data, and no extreme values were found either. In SEM analyzes, it is stated that a sample size greater than 300 will yield good results (Tabachnick & Fidell, 2015); however, it is stated that acceptable results can also be obtained from samples of 200 or more (Kline, 2019). The sample size reached within the scope of the research is 418 people. Therefore, it can be said that the size of the data is suitable for SEM analyzes. Just like Tabachnick and Fidell (2015) stated, it was paid attention that the skewness and kurtosis values were at the significance level of  $p=0.05$  and were between +1.96 and -1.96. Multivariate linearity was checked by examining scatter diagrams between variables and p-plot charts, and it was assumed that the data set provided multivariate normality.

## Results

### Structural Model Findings

In the study, descriptive statistics related to the model variables were included first, and then the findings of the mediation model, which is based on the measurement model created with the latent variables and their indicators in the model and the multi-group analysis, and aiming to determine the indirect and direct effects are shared.

**Descriptive Statistics for Model Variables.** Descriptive statistics and two-variable correlation coefficients for all study variables included in the established model are given in Table 2.

Table 2. Descriptive Statistics and Correlation Coefficients for the Model

Model Variables	1	2	3	4	5	6	7	M	SD	Skew.	Kurt.
1. STB	1.00							3.40	0.870	-0.280	-0.509
2. SLEPI	-0.379**	1.00						3.03	0.977	0.023	-0.800
3. SC	0.094	-0.159**	1.00					2.36	1.08	0.525	-0.722
4. SN	0.045	-0.117*	0.645**	1.00				3.16	1.14	-0.200	-0.988
5. RT	0.074	-0.066	0.404**	0.527**	1.00			2.74	1.35	0.167	-1.251
6. SI	-0.070	0.129**	-0.075	-0.020	0.033	1.00		3.42	1.18	-0.369	-0.914
7.SAL	-0.060	0.111*	-0.038	0.066	0.020	0.136**	1.00	2.53	0.753	0.447	-0.248

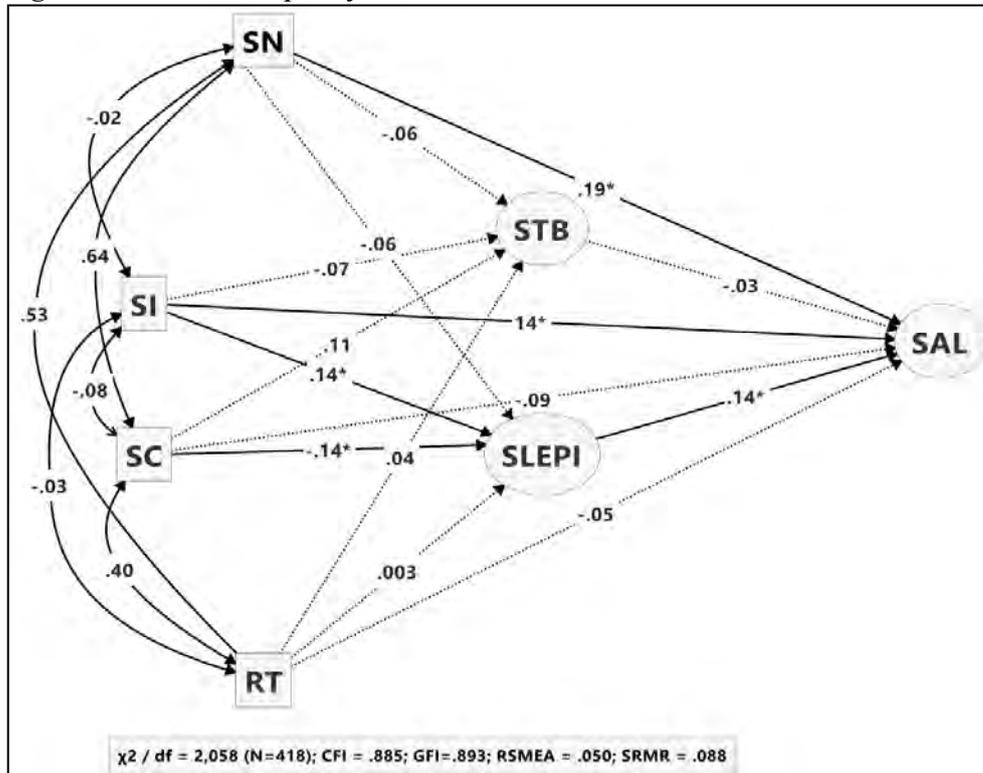
Note: \* $p<0.05$ . \*\* $p<0.01$ .

In Table 2, the measurement ranges, mean, standard deviation, and kurtosis-skewness values of the variables in the measurement model are included. As stated above, the kurtosis-skewness values obtained to test univariate normality reveal that the distribution does not deviate excessively from normality. Pearson correlations were not found to have very high correlation values (0.9 and above; -

0.9 and below) between the variables. Therefore, it can be said that multiple connectivities and singularity assumptions are provided.

**Findings related to the Measurement Model.** The path diagram with standardized estimates of SEM and fit indexes for the model are presented in Figure 2.

Figure 2. Structural Equality Model



Note: \* $p < 0.05$ .

In the SEM diagram presented in Figure 2, dotted lines represent insignificant and straight lines represent meaningful relationships. To develop the hypothetical model, the maximum likelihood (MLR) estimation was used together with a bootstrapping procedure. When looking at the direction of effects and factor loadings between implicit variables, it is seen that the variables SC and SLEPI ( $\beta = -0.13$ ,  $p < 0.05$ ) are significantly and negatively related to each other, SI and SLEPI ( $\beta = 0.13$ ,  $p < 0.05$ ), SN and SAL ( $\beta = 0.19$ ,  $p < 0.05$ ), SI and SAL ( $\beta = 0.14$ ,  $p < 0.05$ ), and finally, the variables SLEPI and SAL ( $\beta = 0.14$ ,  $p < 0.05$ ) are significantly and positively related to each other. The fit indices of the model have been examined and interpreted, according to Byrne (2010) and Kline (2019) guidelines, using the criteria in Table 3.

Table 3. Ranges for SEM Fit Indexes

Overall Fit Indices	Acceptable fit Ranges	Good Fit Ranges	Value	Comment
$\chi^2/df$	$3 \leq \chi^2/df \leq 5$	$0 < \chi^2/df \leq 3$	2.058	Good Fit
RMSEA	$0.05 \leq RMSEA \leq 0.10$	$0 \leq RMSEA \leq 0.05$	0.050	Good Fit
CFI	$0.90 \leq CFI \leq 0.95$	$0.95 \leq CFI \leq 1$	0.885	Acceptable Fit
GFI	$0.85 \leq GFI \leq 0.90$	$0.90 \leq GFI \leq 1$	0.893	Acceptable Fit
SRMR	$0.05 \leq SRMR \leq 0.10$	$0 \leq SRMR \leq 0.05$	0.088	Acceptable Fit

When the model fit values in Table 3 are examined, it can be said that the model established is sufficiently compatible with the data; however, the harmony of the model as a whole necessitated a review of the MIs (modification indices). Brown (2006) proposes to include the additional covariance between the two indicators in the analysis using error covariance within a one-dimensional structure, instead of adding another latent factor. After reviewing MIs by following the procedures determined by Byrne (2010, p. 89), parameter change statistics related to error covariances revealed significant values (see Annex 1). For example, the change parameter coefficients for the error covariances of the STB factor (e32-e33, e36-e37) were respectively calculated as 0.371 and 0.404. The parameter variation coefficient of the SLEPI factor (e38-e39) was calculated as 0.532. The model obtained as a result of post hoc analysis revealed a statistically significant difference at the level of  $\Delta\chi^2=81.654$  compared to the previous model. These covariances, added as a result of post hoc analyses, indicate that there is a content conflict. The significance levels of the standardized path coefficients, standard error coefficients, and path coefficients of SEM are presented in Table 4.

Table 4. Hypothesis Test Results in Structural Model

Hypothesis	Model Parameters	$\beta$	SE	P Value	Result	R <sup>2</sup>
H1	SN----->STB	-0.060	0.055	0.432	Not Supported	0.016
H2	SI----->STB	-0.072	0.038	0.224	Not Supported	
H3	SC----->STB	0.112	0.054	0.104	Not Supported	
H4	RT----->STB	0.049	0.039	0.437	Not Supported	
H5	SN----->SLEPI	-0.065	0.049	0.384	Not Supported	0.053
H6	SI----->SLEPI	0.145	0.035	0.016*	Supported	
H7	SC----->SLEPI	-0.139	0.049	0.050*	Supported	
H8	RT----->SLEPI	0.003	0.034	0.907	Not Supported	0.064
H9	STB---->SAL	-0.027	0.041	0.656	Not Supported	
H10	SLEPI-->SAL	0.138	0.055	0.050*	Supported	
H11	SN----->SAL	0.190	0.042	0.033*	Supported	
H12	SI----->SAL	0.138	0.029	0.030*	Supported	
H13	SC----->SAL	-0.088	0.040	0.279	Not Supported	
H14	RT----->SAL	-0.050	0.028	0.480	Not Supported	

Note: \* $p < 0.05$ .

According to the results of the SEM analysis in Table 4, 5 of the 14 hypotheses (H6, H7, H10, H11, and H12) created according to the sub-problems of the research were supported. As a result of the analysis, it was found that; STB is

predicted by the variables SN, SI, SC, and RT at the level of  $R^2=0.016$ , SLEPI is predicted at the level of  $R^2=0.053$  by those variables, and finally SAL is predicted as  $R^2=0.064$  by STB, SLEPI, SN, SI, SC, and RT variables.

**Findings regarding the Mediation Model.** SEM provides the opportunity to determine the direct and indirect effects of variables by performing multi-group analyzes. The confirmatory framework determined to test the hypotheses consists of testing the conformity of the assumed model to the real data and rejecting the model without modification in case of suitability shortage (Byrne, 2010). The default model was tested using a maximum probability estimate with a bootstrapping procedure (5,000 iterations, predictor bias-corrected confidence intervals of 95%; Preacher & Hayes, 2008). Performing such an analysis instead of separate mediation analyzes allows directly testing the hypothesis that there is no difference between total effect and direct effect (Preacher & Hayes, 2004). Besides, such an analysis reduces the probability of Type I error, which is concluding that it exists even though there is no mediator (Preacher & Hayes, 2008). Just like previously mentioned, mediation testing was run using the bootstrapping procedure, which consists of generating many new samples based on the general population. The results of the bootstrapping analysis show that 3 (H19, H21 and H22) of the 8 (H15, H16, H17, H18, H19, H20, H21 and H22) hypotheses, which are the continuation of the sub-problems of the research, have been supported (Table 5).

Table 5. Bootstrapping Analysis Results related to Indirect Effects between Variables

Hypothesis	Model Parameters	Indirect Effect	Direct Effect	SE	P Value	Result
H15	SN---STB---->SAL	-0.003	0.082	0.007	0.266	Not Supported
H16	SI----STB ---> SAL	0.006	0.156	0.008	0.180	Not Supported
H17	SC---STB ---> SAL	-0.009	-0.015	0.009	0.147	Not Supported
H18	RT-- STB ---> SAL	-0.006	0.007	0.007	0.175	Not Supported
H19	SN---SLEPI-> SAL	-0.024	-0.104	0.016	0.019*	Supported
H20	SI--- SLEPI -> SAL	0.020	0.144	0.015	0.048*	Supported
H21	SC-- SLEPI -> SAL	-0.028	0.004	0.018	0.032*	Supported
H22	RT-- SLEPI -> SAL	-0.013	0.012	0.012	0.050*	Supported

Note: \* $p < 0.05$ .

It can be understood from Table 5, the indirect effects of the hypotheses H19, H20, H21, and H22 were found to be statistically significant. In the related table, it was determined that the total effect value of the SN on SAL was  $\beta=0.079$ , the direct effect value was  $\beta=0.082$ , and the  $\beta=-0.003$  unit difference between them was caused by negative indirect SN effects on SAL occurring through SLEPI. This situation can be interpreted that when a safe learning environment with peer interaction increases, the need for sharing reduces the effect on student alienation levels. Similarly, this situation reduced the relationship between SLEPI, SC, and SAL indirectly at the level of  $\beta=-0.028$  and negatively. In addition, the indirect effect through SLEPI contributed  $\beta=0.020$  units to the direct effect between SI and SAL levels ( $\beta=0.144$ ), resulting in a total effect value of  $\beta=0.163$  units. According

to this result, it was determined that there is a positive relationship between SI and SAL levels. In other words, as the social isolation levels of the participants in the study increased, their level of alienation did so; inclusion of the intermediary variable SLEPI in the analysis contributed to the further increase of this level. Finally, the SLEPI has resulted in obtaining a total effect value of  $\beta=0.000$  by making a negative contribution of  $\beta=-0.013$  units to the positive effect between RT and SAL at the level of  $\beta=0.012$ . According to the H22 hypothesis, it can be said that alienation will also decrease through a safe learning environment and peer interaction, along with healthy relationships with teachers.

## Discussion

With the widespread use of social media among students, the way of communication has also begun to change, and social media has become one of the most preferred communication tools. It is noted that the use of social media, which affects large masses, is a part of people's daily lives (Boyd & Ellison, 2008). It is stated that the increasing rate of social media usage brings about significant changes in people's lives along with the negligence of important functions of life (Andreassen, Pallesen & Griffiths, 2017). In this context, the determinants of individuals' behaviors and their effects have been focused on in this study, which focuses on the relationships between social media, school climate, and alienation variables.

As a result of SEM analysis, it was found that social isolation and social competence have significant effects on a safe learning environment and peer interaction. School climate reflects people's school experiences, norms, goals, values, interpersonal relationships, practices and organizations, and relationships with teachers (Thapa & Cohen, 2013). Hoy (2003) points out that non-supportive school environments and negative student-teacher interactions increase students' tendency to use social media. When H6 and H7 hypothesis are taken into account, it is expected that as social isolation increases, the need for a safe learning environment and peer interaction increases, and as social competence increases, the need for a safe learning environment and peer interaction decrease.

The rates of students' use of social media tools and the loneliness and social isolation that develop accordingly are closely related to safe learning environments and friendship relations. For instance, the hypotheses H9, H13, and H14 have shown that supportive teacher behaviors, social competence, and relationship dimensions with teachers affect alienation negatively, even if they have not achieved statistical significance in the structural model. In this sense, integrating social media tools into educational practices and applying an interactive process involving teachers will help students reduce the feeling of loneliness and develop a positive attitude towards teachers. As a matter of fact, the hypothesis H8, too, which is an unsupported hypothesis in the structural model, reflected the positive relationship between a relationship with teachers, and a safe learning environment, and peer interaction.

Supporting the hypotheses H6 and H7 results, Öztürk and Talas (2015) have stated that the use of social networks, which have become widespread among students, in educational environments would increase the interaction between students and teachers and increase the opportunities for students to get to know each other. Similarly, Goel and Singh (2016) concluded in their study that social media tools affect the academic success of institutions positively apart from the need for sharing by helping the development of positive attitudes towards project preparation, homework, and other academic activities. It has been suggested that the use of social networks not only increases social competence and interaction, but also supports active learning and peer collaboration (Ajjan & Hartshorne, 2008). Therefore, it can be said that the creation of a supportive school climate and encouragement of positive teacher attitudes in educational environments will promote students to use social media networks for academic purposes together with their sharing needs; and so this will reduce their social isolation level and support them to make more friendships. This result shows that the hypotheses H6 and H7 are compatible with the literature and related studies.

The levels of sharing need and social isolation of students had significant effects on their alienation (H11 and H12). According to the results of the SEM analysis of the model established in the research, the strongest relationship that emerged is between the need for sharing and alienation ( $\beta=0.19$ ) (Table 4, Figure 2). Alienation is defined as a process that includes distancing of students from a school academically and socially because of the school environment, teacher attitudes, and social processes (Schulz & Rubel, 2011). Alienation is also defined as the gradual alienation of students from learning activities and learning processes (Sidorkin, 2004). Mackey (1974) states that elements such as powerlessness and social distance that affect the process of alienation negatively affect the learning process in educational settings and restrict social activities. In fact, it has been proven by research that alienating from school is an important determinant of participation in educational activities and educational success (Hadjar, Backes & Gysin, 2015; Safipour, Tessma, Higginbottom, & Emami, 2010).

As can be seen from the explanations, alienation sets the stage for the abstraction of students from educational environments and learning processes. In this context, it can be argued that social media, which is used as a communication tool, can affect students' alienation from education by playing an active role in this process. In other words, it can be expected that the level of alienation will also increase if the need for sharing and the level of social isolation increases in students. Supporting this result of the study, Atalay (2014) found that positive friend and teacher support has a negative effect on the need for sharing and social isolation as a result of his research. Similarly, according to the results of the research conducted by Mutlu (2014), Ceyhan and Ceyhan (2008) and Kim, Kim, Park, and Rice (2007) it is stated that the level of loneliness affects the tendency towards social networks, therefore, having more or fewer friendship relationships in the virtual environment can trigger social isolation. When the research findings of Savcı and Aysan (2018) are examined it is seen that loneliness increased the use of social media, in other words, loneliness and social media use were positively related to each other. Young, Pistner, O'mara, and Buchanan (1999) states that

students' school adaptation and attitudes towards school are negatively affected by social media and cyber relationship addictions. Thus, it can be said that the use of social media can affect student life in various ways and that a supportive school environment and positive peer relationships can play an important role in this process. In this context, it can be concluded that the hypotheses H11 and H12 are compatible with the relevant literature and research results.

It is argued that the need for sharing and social isolation, like Finn (1989) stated, will decrease with the effect of providing a safe learning environment and peer interaction and the positive school perception that will occur accordingly, so then the level of alienation will decrease. However, with the decrease of alienation from the school, it can be expected that students' educational output and school participation levels will increase positively. However, with the decrease of alienation from the school, students' educational output and school participation levels can be expected to increase positively. On the other hand, it was found that the rejected H1, H2, H3, and H4 hypotheses in the structural model showed that none of the sub-structures of social media predicted the supportive teacher behaviors, which are the sub-structures of the school climate scale, and the indirect effects of the H15, H16, H17, and H18 hypotheses did not reach statistical significance. According to this result, it is revealed that the causal connections based on the relationships between the school climate components and other variables should be studied comprehensively, especially what effects supportive teacher behaviors can promote when mediating between social media use and alienation.

Another statistically significant result obtained in this study is that the positive effect (H10) of SLEPI on SAL is unexpectedly contrary to the existing literature and research results (Atik & Özer, 2020). This result can be explained by the fact that the relationships between a safe learning environment and peer support and alienation are linked to different factors (e.g., self-efficacy) and are complex issues that can be affected by various social agents. However, it may be necessary to re-measure with a new index by reviewing the existing criteria for measuring the theory-supported concepts that constitute the problem of this study.

According to another statistically significant result obtained from the SEM analysis (H19, H21, and H22), it has been determined that SLEPI has a negative mediating effect on the alienation of SN, SC, and RT. In other words, it has been determined that SLEPI reduces alienation by affecting the direct effect of SN, SC, and RT on alienation indirectly. These findings proved that the positive correlations between social isolation-alienation and social network use, which were revealed by previous studies (Ingvadóttir, 2014; Kang, 2007; Kraut, Kiesler, & Scherlis, 1998; Türk & Kazan, 2019; Yavuz, 2017), regressed through the SLEPI. In his research examining students' use of social media in terms of various variables, Kang (2007) concluded that social network use leads students to loneliness, disorder, and even depression. In the same study, it is stated that social support will contribute positively to the reduction of loneliness and accompanying depressive feelings in students. Al-Kandari and Al-Sejari (2020) concluded in their study on a sample of 1431 Kuwaiti residents between the ages of 17-26, that social isolation leads to a high level of technology addiction. Similarly, in the longitudinal

study conducted by Kraut, Kiesler, and Scherlis (1998), it was concluded that internet and social network use causes loneliness in individuals. Again, in the study conducted by Yavuz (2017) to determine the effect of the frequency of social media use on the loneliness of high school students, it was found that students were isolated from their friendships due to social media use. Türk and Kazan (2019) found a positive relationship between the time allocated to social media and the level of alienation. Including 2089 middle school students between 13 and 16 in his study in Iceland, Ingvadóttir (2014) concluded that students who spend more time on social media become more lonely and alienated.

According to the H20 hypothesis confirmed in the mediation model, it has been concluded that SLEPI has a positive mediation effect in the positive directional effect of SI on alienation. Thus the H20-coded hypothesis contradicts the literature, as it is consistent with the H10 hypothesis. It can be said that the reason is that the analysis is based on a single section design. In future studies, this deficiency can be overcome by using different indexes.

According to the results of SEM analysis, students' social media attitudes, supportive learning environments, and accompanying peer support significantly predict the level of alienation. In other words, the school atmosphere substructures play an important mediating role in the strong relationships between the substructures of the social media attitude scale and alienation. According to these results, it can be said that the level of alienation, which is directly affected by the increase in social media usage needs of students, will decrease thanks to the positive school climate. On the other hand, social media is a phenomenon that is increasingly common in many areas of life, including education. Social media is effective in connecting individuals and masses together, as it includes social interaction, collaboration and negotiation between its users (Bryer & Zavatarro, 2011, p. 327).

It is claimed that social learning is also effective in the spread of social networks among students. According to the concept of social learning, stimulus that attract students' attention encourage them to learn in the most effective way (Vygotsky, 1978; cited in Chen & Bryer, 2012). Considering the theory that social learning is integrated with social media technologies (Downes, 2007) in the new digital age, it can be expected that social networks will be used frequently by students. Therefore, understanding how students behave in such networks, how they make friends and being aware of the effects of social networks on them are precious as a potential source of information for educators.

As a result of the research, they conducted in Iran to determine the attitudes of English teachers towards social media tools, Rezaei and Meshkatiyan (2017) found out that teachers' use of social media tools for teaching with students reinforces outdoor activities, improves the socialization process among students, and positive perceptions about education. The research results reached by Taylor (2020) revealed that students between 13 and 24 are open to the idea of including social media in their academic curriculum and that some already use it as a complementary tool. It has been proven with the researches (Conaway & Brownson, 2014; Özmen, Aküzüm, Sünkür, & Baysal, 2011; Toğay, Akdur,

Yetişken, & Bilici, 2013) that the inclusion of social media tools in educational processes will provide flexibility in learning and facilitate learning processes.

### **Implications for Further Research**

It is thought that the awareness of the effects of students' use of social media on their personal lives and friendship relations by school organizations will be effective in creating predictable intervention styles. So, in terms of the life experiences of students through social networks within or outside the school boundaries, school organizations have an important role in choosing among the contents and connecting with existing or new sources of information. As a matter of fact, a sustainable positive school climate includes a process in which students feel socially, emotionally, and physically safe, and students, families, and educators work together and contribute based on a common school vision. In this respect, it is important for teachers, who are an important element of the school climate, to use social media full of technological components for teaching purposes without being unfamiliar with it. It can be said that these uses of teachers will reinforce students' in-school and out-of-school learning, as well as reduce loneliness and alienation in students thanks to positive teacher approaches and peer interactions that will occur during this process.

It could be argued that the biggest challenge for future research will be determining how students with low or no interest in social media can leverage interactivity and social media resources to support learning and teaching.

### **Recommendations**

Based on the results of the research, the following recommendations are made:

- Studies with larger samples can be conducted on supportive teacher attitudes and the contribution of the positive school environment to alienation.
- In this study, which examines the mediating role of school climate components between social media and alienation, exploratory researches can be conducted on different subjects that may affect alienation in students' daily lives.
- In this study, it was determined that the strongest variable predicting alienation is the sharing need. Studies can be conducted to determine the dynamics of sharing need and their relationships with latent variables that cannot be explained in this study.
- Safe learning environment and peer interaction played a negative mediating role between the need to share and alienation, and between social isolation and alienation. Considering this situation in the regulations to be made in educational institutions will encourage cohesion among students, use of social media for educational purposes and a supportive learning environment.

## Conclusions

This study aimed to examine the relationships between secondary school students' social media attitudes, social climate perceptions and alienation levels. This study using the SEM approach proved that the need for sharing and social isolation components, which represents social media attitudes, has direct effects on the alienation score. According to this, in cases where the need for social isolation and sharing increases, it can be expected that the level of alienation will increase. In addition, it can be argued that as social isolation increases, the need for safe learning environment and peer communication will increase, and in cases where social competence increases, this need will decrease. According to the findings obtained from the mediation model, it was determined that the effect of social media attitude on the alienation score decreased when the perception of school climate as a mediator variable increased. It seems that the safe learning environment and peer interaction, which are an important component of the school climate, should be considered important by education staff and the use of social media tools to increase in-school interaction should be supported. This study should be completed with further research as it has a single section design and the alienation score may have been affected by different social agents. Experimental designs to be carried out for this purpose will reveal the latent variables that contribute to student alienation.

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**Appendix 1. Structural Equation Model**

