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## Examining the Relationships between High School Students' Peer Relationships, Cyberbullying Status and Intentions to Use Social Networks via Smartphone

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### Abstract

The aim of this study to investigate the link between cyberbullying, peer relationships, and social media usage in high school students in Turkey. The population of the study consists of students enrolled in high schools in Turkey in the 2023-2024 academic year. The sample consists of 230 students, 120 females and 110 males, who are studying in 2 different secondary education institutions determined through convenience sampling. The data were analyzed with Pearson correlation analysis, structural equation modeling, Independent Groups t Test and ANOVA using IBM SPSS 25.0 and AMOS 24.0. The results of the study showed that high school students' social media use and peer relationships are directly related to cyberbullying. It was found that the perception of cyberbullying decreased as the purposes of social media use, especially factors such as social interaction and communication, recognition and recognition increased. The results indicated a direct relationship between social media use and cyberbullying; as social media use increased, the perception of cyberbullying decreased. Differences were observed in gender and grade level, with females scoring lower and 9th graders more exposed. It was also determined that the use of social media for educational purposes decreased cyberbullying. In line with the results, various recommendations were presented to students, school administrators, policy makers and families.

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### Introduction

The rapid development of technology and the widespread use of digital tools have led to significant changes in social relations and forms of communication. Especially among young people, smartphones and social media platforms have become an indispensable part of daily life. Using social networks through smartphones makes it easier for young people to stay in touch with their social environment and opens the door to new forms of socialization (Bottaro & Faraci, 2022). However, this situation also opens the door to some negative consequences. Especially negative interactions on digital platforms and cyberbullying can negatively affect the psychosocial development of young people (Feng, Su & He, 2024). In this context, examining the relationships

between high school students' peer relationships, cyberbullying experiences, and social media usage purposes is important for understanding the opportunities and threats faced by today's youth in the digital age.

Today, smartphones and social media platforms have become an integral part of daily life among high school students. As traditional face-to-face communication is partially replaced by virtual interactions, the nature of peer relationships is also changing (Spies Shapiro & Margolin, 2014). The widespread use of social media platforms not only affects the quality of relationships among students, but also leads to the reshaping of important psychological processes such as social acceptance, sense of belonging and exclusion in the digital environment (Khetawat & Steele, 2023). Moreover, negative behaviors such as cyberbullying are widely experienced on these digital platforms and have serious psychological effects on students. Cyberbullying includes negative behaviors such as harassing, threatening, humiliating or excluding a person through digital platforms, and such behaviors can seriously affect the mental health of young people (Akkaş & Turan, 2024; Bektaş et al., 2015).

### **Peer Relationships and Cyberbullying in High School Students**

Adolescence is a critical period for the identity development of individuals, and peer relationships play an important role in the social and psychological development of students during this period. High school-age youth begin to spend more time with their social environment and peer groups become a determining factor in shaping individuals' social acceptance, belonging and self-perceptions (Ay, 2017; Steinberg, 2017). In this period, peer relationships can increase young people's self-confidence, strengthen their psychological resilience, or, when shaped negatively, can lead to emotional and behavioral problems. Therefore, the quality of high school students' peer relationships is of great importance for both educational and psychosocial development.

Peer relationships are at the center of adolescents' emotional and social development processes. As the process of becoming independent from the family accelerates during adolescence, the bonds established between peers gain more importance. During this period, adolescents learn social norms, develop social skills and construct their identities in their interactions with their friends (Bukowski, 2011; Wentzel, 2005). In particular, it has been observed that young people who provide emotional support and develop collaborative relationships have a higher capacity to cope with stress (Rueger, Malecki, & Demaray, 2010). Peer support serves as a buffer against negative life events by allowing individuals to feel more valuable and secure. The quality of peer relationships also plays an important role in students' school success. In particular, positive peer relationships increase students' commitment to school and positively affect their academic achievement (Wentzel & Caldwell, 1997). Peer support enables students to be more successful in the school environment by increasing their motivation in the classroom and their participation in learning processes. However, situations such as negative peer relations or exclusion may cause students to withdraw from school and decrease their academic performance (Berndt & Keefe, 1995). Therefore, it can be said that high school students' experiences of peer relationships are directly related to their academic achievement.

Peer relations among high school students are also shaped by social hierarchies and group dynamics. Processes such as popularity, social acceptance and exclusion are among the main factors that determine the quality of peer

relationships. Popular students are usually individuals with high social skills, leadership qualities and are liked by their peers (LaFontana & Cillessen, 2002). However, it is also stated that popularity-based relationships can sometimes be competitive and exclusionary. Such hierarchical relationships may lead some students to experience negative experiences such as social exclusion or bullying (Juvonen & Gross, 2005). The quality of peer relationships is also an issue that needs to be examined in terms of gender differences. Research shows that there are differences between male and female students in terms of peer relationships and bullying experiences. For example, while behaviors such as relational bullying, social exclusion and manipulation of friendships are more common among female students, physical bullying and verbal aggression are more common among male students (Crick & Nelson, 2002).

Peer bullying is a common problem among high school students and negatively affects their psychological and social development. Bullied students often experience psychological problems such as low self-esteem, increased anxiety and depression (Hawker & Boulton, 2000). Peer bullying is not limited to physical aggression; verbal and relational bullying are also common (Crick & Grotpeter, 1995). Cyberbullying is a type of digital bullying that has gained a new dimension in peer relations with technological developments. The widespread use of computers, smartphones and social media platforms has moved students' interactions with their peers to virtual environments and this has led to the emergence of new threats such as cyberbullying (Patchin & Hinduja, 2010). Unlike traditional bullying, cyberbullying, unlike traditional bullying, can occur without time and space limitations and causes victims to feel under constant threat of bullying. Cyberbullying cases, which are common among high school students, include behaviors such as insults, threats, ridicule or exclusion, especially on social media platforms. These forms of bullying have serious negative effects on students' mental health, leading to problems such as anxiety, depression, and low self-esteem (Kowalski, Giumetti, Schroeder, & Lattanner, 2014).

### **Social Network Use via Smartphone and Its Effects**

Today, smartphones have become an indispensable part of young people's daily lives and facilitate their communication through social networks. By making it possible to access these platforms at any time, smartphones enable young people to maintain their social relationships and make new connections (Boyd & Ellison, 2007). The impact of social network use via smartphones on young people's social relationships is particularly important for the psychosocial development of adolescents. A study by Valkenburg and Peter (2009) shows that social networking has the potential to improve adolescents' social skills and increase their interactions with peers. However, this has the potential to be reversed; social networks can negatively affect face-to-face communication skills and lead to social isolation (Kraut et al., 1998). The purpose of using social networks determines how young people experience these platforms and the psychological and social consequences of these experiences. Ellison, Steinfield, and Lampe (2007) state that social networks are primarily used to maintain and develop existing social relationships. This purpose of use can increase young people's social capital and expand their social support networks. However, for some young people, these platforms offer anonymity and the opportunity to build superficial relationships, leading to less in-depth social interactions (Subrahmanyam & Greenfield, 2008).

According to research, excessive use of social media platforms via smartphones has negative effects on young

people's mental health. The most prominent negative effects are increased levels of depression and anxiety (Twenge & Campbell, 2018). Cyberbullying emerges as a negative by-product of social networking and threatens the psychological well-being of young people. Hinduja and Patchin (2008) state that cyberbullying has become more prevalent than traditional bullying and can be easily carried out over social networks. This shows that the negative experiences that young people are exposed to through social networks can harm their peer relationships and their overall psychosocial health. Furthermore, the content shared on social networks affects students' perception of reality and social norms. Content that displays perfect and idealized lifestyles causes students to find their own lives inadequate and leads to low self-esteem (Holland & Tiggemann, 2016).

The impact of social media platforms on young people's privacy and safety should also be taken into account. Young people may face various risks when sharing personal information on social networks. Madden and Smith (2010) emphasize that young users should be made aware of privacy issues and equipped with the necessary knowledge and skills to stay safe online. Social media platforms contribute to the spread of cyberbullying and become more destructive as they provide anonymity and easy access (Hinduja & Patchin, 2015). Cyberbullying negatively affects victims' mental health, academic performance and social relationships. Therefore, high school students' conscious and responsible use of social networks may be an important factor to reduce the risk of cyberbullying.

In today's world, where most of young people's social relationships are shaped in the digital environment, smartphones and social networks have become one of the main tools of interactions between students (Lenhart, 2015; Anderson & Jiang, 2018). However, despite the socialization opportunities provided by these platforms, they also bring negative consequences such as cyberbullying (Kowalski, Giumetti, Schroeder, & Lattanner, 2014). Although there are many studies on cyberbullying in the literature (Smith et al., 2008; Tokunaga, 2010), these studies generally focus on the individual psychological consequences of cyberbullying and do not adequately consider the dynamics between peer relationships and social network use. There is more limited data on how students with strong peer relationships may be less likely to be cyberbullied or how social networks play a role in these relationships (Salmivalli, 2010).

This study aims to fill an important gap in the literature by examining cyberbullying, peer relationships and social media use together. There is a limited number of studies addressing the social network use, peer relations and cyberbullying experiences of high school students and youth in Turkey (Arslan, 2016; Yaman & Peker, 2012). Especially with the widespread use of smartphones, students' purposes of using social media platforms, how these tools affect social relationships, and how they can be associated with cyberbullying is an issue that awaits further research. By filling this gap in both national and international literature, this study will contribute to a deeper understanding of the complex relationship between high school students' peer relationships, social network use and cyberbullying experiences. Furthermore, the results may guide the development of more effective intervention strategies for school administrations, families, and policy makers.

The aim of this study is to examine the relationships between cyberbullying, peer relationships and the purpose of using social networks via smartphones in high school students in terms of some variables. Three hypotheses

and three research questions were determined in relation to the research purpose. These are as follows:

*Hypotheses:*

- H1: Purposes of using social networks via smartphones are positively correlated with peer relationships.
- H1: Purposes of using social networking via smartphones and peer relationships are positively related.
- H2: Social network usage via smartphones has a negative effect on cyberbullying.
- H3: Peer relationships have a negative effect on cyberbullying.

*Sub-problems:*

- What is the level of high school students' use of social networking via smartphones, peer relationships and cyberbullying behaviors?
- Do high school students' use of social networks via smartphones, peer relationships and cyberbullying behaviors differ according to gender variable?
- Do high school students' social network use, peer relations and cyberbullying behaviors through smartphones differ according to the class variable?

## **Method**

### **Research Model**

Relational survey model, one of the quantitative research types, was used in the study. The relational survey model is used to determine the relationships between the variables within the scope of the research (Creswell & Poth, 2016). It is possible to have an idea about whether the relationships between variables are negative or positive and whether they change together. The relationships between cyberbullying, which is the dependent variable of the study, and the independent variables of the study, “*peer relationships*” and “*social network usage purposes through smartphones*”, were examined with Structural Equation Modeling.

### **Population and Sample**

The population of this research is the students enrolled in high schools in Turkey in the 2023-2024 academic year. It was adopted that the appropriate method for the study to be conducted would be a cross-sectional survey research design in which single-time data were collected and this method was used. When determining the participants participating in the research from the appropriate sampling method, it is determined by considering the suitability and voluntariness of the participants for the research (Creswell, 2014). The scales were administered to 230 students selected from this population through convenience sampling. A total of 2 secondary education institutions were visited and classes were determined so that the average of students in 9th, 10th, 11th and 12th grades were close to each other. The scales were distributed to students who agreed to participate voluntarily. Incomplete and inaccurate scales were not used in the analyses, and the analyses were conducted on a total of 230 samples that were accepted as complete and error-free. The high school students in the research sample consisted of 120 female and 110 male students.

## **Data Collection Tools**

As the data collection tool of the study; *Personal Information Form* covering general and psychometric characteristics, *Cyberbullying Scale*, *Peer Relationship Scale* and *Scale of Intended Use of Social Networks via Smartphone* were used.

### ***Personal Information Form***

The form was prepared by the researcher by analyzing the literature in order to have an idea about the demographic characteristics of the students. It was used to obtain information about the participants' gender, grade level and family income level.

### ***Cyberbullying Scale***

In the study, *the Revised Cyberbullying Inventory-II (RCBI-II)* was used to measure the cyberbullying level of the sample group. The inventory was developed by Erdur-Baker (2007). The items of the scale, which was purified from technological words, were renewed in the revision study. RCBI-II has 10 items and two scoring columns. Participants rate each item twice. It is answered twice in the form of a 5-point rating to assess cyberbullying behaviors in the “*I Did It*” column and to assess cyber victimization behaviors in the “*It Was Done to Me*” column. In this study, only the cyberbullying behavior dimension of the scale was used. A high score indicates a high level of frequent cyberbullying behavior.

Confirmatory factor analysis was applied to test the one-factor structure of the *cyberbullying scale*. The fit values obtained ( $\chi^2= 56.05$ ; Sd= 24;  $\chi^2/sd=2.34$ ;  $p<0.001$ ; RMSEA=0.08; SRMR= 0.03; CFI=0.99; TLI= 0.97) indicated that the one-factor structure of the scale showed a good fit with the research data (Hair et al., 2010). The factor loadings of the scale items were between 0.68 and 0.83. Reliability based on internal consistency for the scale is at a high level (Cronbach's alpha= 0.92).

### ***Scale of Intended Use of Social Networks via Smartphone***

The scale was developed by Karal and Kokoç (2010). The Cronbach Alpha internal consistency coefficient of the scale was calculated as 0.83 by the developers. The scale consists of 14 items and 3 sub-dimensions. The dimensions of the scale are named as “social interaction and communication purposes”, “recognition and recognition purposes” and “educational purposes”. Among these dimensions, the sub-dimension for social interaction and communication purposes consists of 8 items, while the sub-dimensions for recognition and recognition purposes and for educational purposes consist of three items each. There are no reversed items in the scale and the scale is scored on a 5-point Likert-type scale. Accordingly, items are scored between 1=strongly disagree and 5=strongly agree (Karal & Kokoç, 2010).

Confirmatory factor analysis was applied to test the three-factor structure of the Intentions to Use Social

Networking via Smartphone scale. The fit values obtained ( $\chi^2= 246.45$ ; Sd= 68;  $\chi^2/sd=3.62$ ;  $p<0.001$ ; RMSEA=0.08; SRMR= 0.07; CFI=0.94; TLI= 0.92) indicated that the three-factor structure of the scale showed a good fit with the research data (Hair et al., 2010). The factor loadings of the scale items ranged between 0.51 and 0.95. The alpha coefficients calculated for the overall scale and its factors were between 0.75 and 0.89. The obtained coefficients showed that the reliability of the scale based on internal consistency was at a sufficient level.

### ***Peer Relationship Scale***

The Peer Relationship Scale developed by Kaner (1998) was used to collect data on another variable of the study. The scale is a scale developed to determine the feelings and thoughts of adolescents or young people about their friends. Both scale forms were administered to 1648 adolescents between the ages of 14 and 18 in Ankara. It was determined that the Peer Relationship Scale has a structure of 18 items with four factors: Commitment, Trust and Identification, Self-Disclosure, and Loyalty. Confirmatory factor analysis was applied to test the four-factor structure of the Peer Relationship Scale. The fit values obtained ( $\chi^2= 286.28$ ; Sd= 124;  $\chi^2/sd=2.31$ ;  $p<0.001$ ; RMSEA=0.08; SRMR= 0.08; CFI=0.96; TLI= 0.95) indicated that the four-factor structure of the scale showed an acceptable level of fit with the research data (Hair et al., 2010). The factor loadings of the scale items ranged between 0.58 and 0.92. The alpha coefficients calculated for the overall scale and its factors were between 0.88 and 0.93. The obtained coefficients showed that the reliability of the scale based on internal consistency was at a high level.

### **Data Analysis**

Before analyzing the research data, certain assumptions were reviewed. Cook distance was calculated to detect outliers, and values greater than one indicate the possibility of outlier data (Yurt, 2023). The results revealed that there were no outliers in the data set (maximum Cook distance = 0.15). The fact that the skewness and kurtosis coefficients are within  $\pm 1$  indicates that the data are close to a normal distribution (Tabachnick & Fidell, 2007). In this context, the calculated values ( $-0.77 \leq \text{skewness} \leq -0.02$ ;  $-0.50 \leq \text{kurtosis} \leq 0.49$ ) confirm that the data exhibit a distribution very close to normal. Furthermore, Variance Inflation Factor (VIF) values below 3 indicate that there is no multicollinearity problem (Yurt, 2023). The highest VIF value was calculated as 2.36, which indicates that there is no multicollinearity problem among the variables.

The data were analyzed through Pearson correlation coefficients to examine the relationships between peer relationships, social media use intentions and cyberbullying. Structural equation modeling was used to test the predictive effects of peer relationships and social media use goals on cyberbullying. Various fit indices such as  $\chi^2/df$  ( $< 5$ ), RMSEA ( $< 0.10$ ), SRMR ( $< 0.10$ ), CFI ( $\geq 0.90$ ) and TLI ( $\geq 0.90$ ) were taken into consideration to evaluate the fit of the model with the data (Hair et al., 2010). These fit indices are widely used reliable criteria to understand how well the model fits the data. In the data analysis process, widely used statistical analysis software such as IBM SPSS 25.0 and AMOS 24.0 were preferred. This type of software is highly effective to ensure the accuracy of the model and to make the findings of the research more solidly grounded. The results of the analyses are of great importance to test the main hypotheses of the research and increase scientific validity.



## Results

The bilateral relations between peer relations, social media usage purposes and cyberbullying were examined by calculating Pearson correlation coefficients. In addition, the mean and standard deviation values of peer relations, social media usage purposes and cyberbullying scores were also calculated. The obtained values are given in Table 1.

The mean values in Table 1 show the average of the participants' views on the variables examined according to the scores ranging from 1 to 5. In general, the participants' scores are at a moderate level. The lowest mean is for cyberbullying (Avg = 2.23), and the highest mean is for self-disclosure (Avg = 3.89). The low views of the participants on cyberbullying indicate that they generally think that cyberbullying is rare. This is a positive situation for preventing and combating cyberbullying. On the other hand, the high views on self-disclosure and loyalty indicate that the participants think that they have these characteristics. This may suggest that the participants are generally satisfied with their social relationships.

Table 1. Pearson Correlation Coefficients

Variables	Mean	Sd	1.	2.	3.	4.	5.	6.	7.	8.
1. Social interaction and communication (SIC)	3.48	0.83	1							
2. Recognition and recognition (SIC)	3.56	0.84	.72**	1						
3. Education (SIC)	3.22	0.99	.62**	.56**	1					
4. Commitment (AC)	3.29	0.91	.52**	.55**	.53**	1				
5. Trust and identification (AC)	3.18	0.94	.50**	.50**	.51**	.82**	1			
6. Self-disclosure (AC)	3.89	0.87	.24**	.24**	.23**	.45**	.51**	1		
7. Loyalty (AC)	3.91	0.92	.17*	.16*	.18**	.44**	.43**	.81**	1	
8. Cyberbullying	2.23	0.96	-.38**	-.45**	-.53**	-.53**	-.55**	-.40**	-.43**	1

\*\*p<0,01; \*p<0,05; N=230; SMUP= Social media usage purposes, PR= Peer relations

The correlation coefficients in Table 1 show the strength of the linear relationship between the two variables. The positive and moderate relationship between social interaction and communication and recognition and recognition (r=0.72; p<0.01) shows that increased social interaction and communication are associated with increased recognition and recognition. Similarly, positive and moderate relationships were found between education and commitment (r=0.53; p<0.01) and trust and identification and self-disclosure (r=0.51; p<0.01). These results support the H1 hypothesis, which suggests that peer relationships and social media usage purposes have positive relationships with each other. In addition, there are negative and moderate relationships between cyberbullying and social interaction and communication (r=-0.38; p<0.01), recognition and recognition (r=-0.45; p<0.01) and education (r=-0.53; p<0.01). These relationships suggest that increased cyberbullying is associated with decreased social interaction and communication, recognition and recognition, and education.

## Structural Equation Model Analysis Results

In order to test the hypotheses of the study, the structural model shown in Figure 1 was created and analyzed. In the model, social media usage purposes and peer relations were considered as independent variables, and cyberbullying was considered as dependent variable. The model was tested using the maximum likelihood method. The goodness of fit values obtained ( $\chi^2= 57.48$ ;  $Sd= 16$ ;  $\chi^2/sd=3.59$ ;  $p<0.001$ ;  $RMSEA=0.08$ ;  $SRMR= 0.08$ ;  $CFI=0.96$ ;  $TLI= 0.93$ ) showed that the model was reasonably compatible with the data (Hair et al., 2010). Path coefficients, standard error values, significance levels and confidence intervals are presented in Table 2.

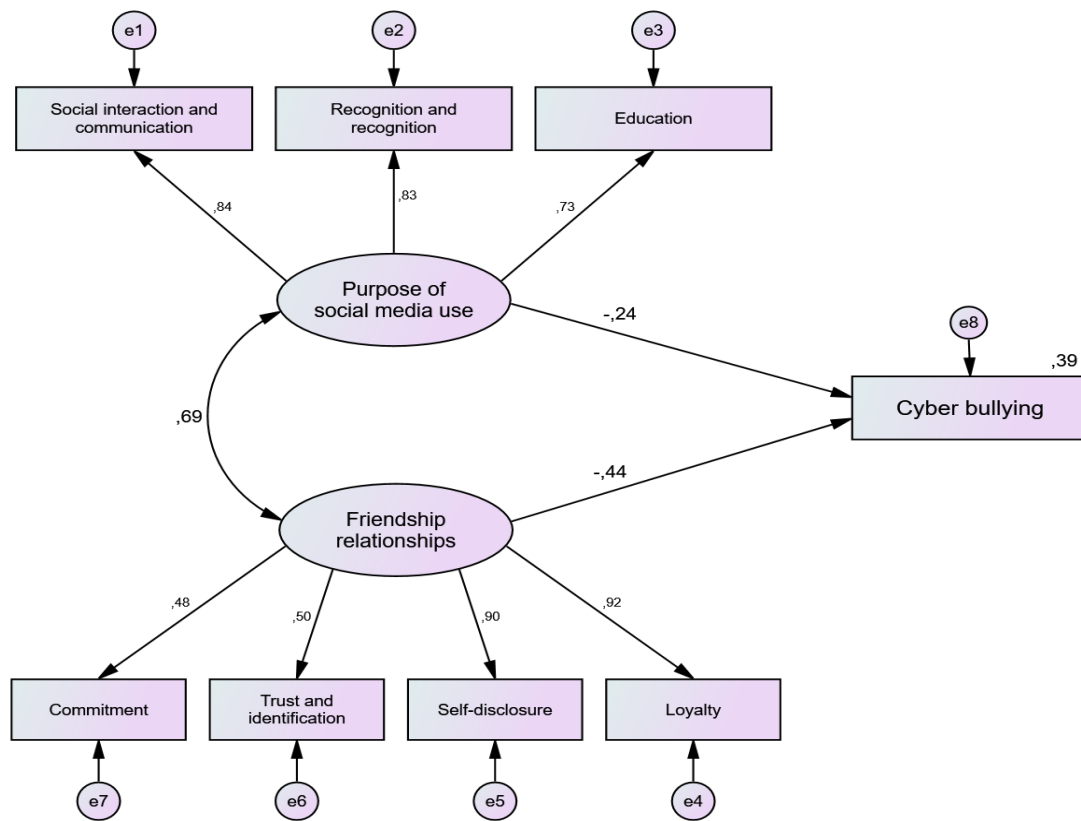


Figure 1. Structural Equation Model

When Table 2 is examined, the predictive power of social media usage purposes for cyberbullying is -0.24 (SE= 0.12;  $t=-2.68$ ;  $p<0.001$ ).

Table 2. Standardized Path Coefficients and Significance Levels

Hypothesis	Paths	$\beta$	SE	t	%95 GA	p	Result
H2	Social media usage purposes ---> Cyberbullying	-0.24	0.12	-2.68	[-0.48; -0.04]	***	Accepted
H3	Peer relationships ---> Cyberbullying	-0.44	0.10	-5.09	[-0.69; -0.29]	***	Accepted

\*\*\*  $p<0,001$ ; CI= Confidence Interval

As social media usage for social interaction and communication, recognition and being recognized and educational purposes increases, the perception of cyberbullying decreases. According to this result, H2 hypothesis was accepted. The predictive power of peer relationships for cyberbullying is -0.44 (SE= 0.10; t=-5.09; p<0.001). As peer relationships based on commitment, trust and identification, self-disclosure and loyalty increase, the perception of cyberbullying decreases. According to this result, H3 hypothesis was accepted. Social media usage purposes and peer relationships together explained 39% of the change in cyberbullying.

Table 3. Friendship Relations, Social Media Usage Purposes and Cyber Bullying Mean Scores, Standard Deviations and Independent Groups t Test Results by Gender

<b>Variables</b>	<b>Gender</b>	<b>N</b>	<b>Mean</b>	<b>Sd</b>	<b>t(228)</b>	<b>p</b>
Social interaction and communication (SIC)	Female	120	3.56	0.86	1.54	0.12
	Male	110	3.39	0.78		
Recognition and recognition (SMUP)	Female	120	3.62	0.90	1.17	0.24
	Male	110	3.49	0.75		
Education (SMUP)	Female	120	3.32	1.00	1.56	0.12
	Male	110	3.12	0.97		
Commitment (AI)	Female	120	3.39	0.90	1.79	0.07
	Male	110	3.18	0.92		
Trust and identification (AI)	Female	120	3.27	0.97	1.43	0.15
	Male	110	3.09	0.90		
Self-disclosure (AI)	Female	120	4.03	0.84	2.59	0.01*
	Male	110	3.74	0.89		
Loyalty (AI)	Female	120	4.04	0.89	2.20	0.03*
	Male	110	3.77	0.93		
Cyberbullying	Female	120	2.09	0.87	-2.28	0.02*
	Male	110	2.37	1.03		

\*p<0.05

When Table 3 is examined, it is understood that there is no significant difference in the mean scores of social interaction and communication (t(228)=1.54; p>0.05), recognition and recognition (t(228)=1.17; p>0.05), education (t(228)=1.56; p>0.05), commitment (t(228)=1.79; p>0.05) and trust and identification (t(228)=1.43; p>0.05) according to gender. However, the mean scores of self-disclosure (t(228)=2.59; p<0.05) and loyalty (t(228)=2.20; p<0.05) differ significantly. The mean scores of females on self-disclosure and loyalty are significantly higher than the mean scores of males. On the other hand, the average cyberbullying scores also show a significant difference according to gender (t(228)=-2.28; p<0.05). The average cyberbullying score of females is significantly lower than the average score of males.

Table 4 shows the mean scores, standard deviations and ANOVA results for peer relations, social media usage purposes and cyberbullying by grade level. According to the results, only the mean scores for cyberbullying showed a significant difference by grade level (F(3;226)=3.92; p<0.05). Scheffe post-hoc test revealed that the

mean scores for cyberbullying of 9th grade students were significantly higher than the mean scores of 12th grade students.

Table 4. Mean Scores, Standard Deviations and ANOVA Results for Friendship Relations, Social Media Usage Purposes and Cyber Bullying by Grade Level

Variables	Grade	N	Mean	Sd	F(3;226)	p	Scheffe Post-Hoc
Social interaction and communication (SMUP)	9	62	3.57	0.91	0.78	0.50	-
	10	71	3.39	0.74			
	11	54	3.41	0.81			
	12	43	3.57	0.86			
Education (SMUP)	9	62	3.59	0.98	0.31	0.82	-
	10	71	3.51	0.88			
	11	54	3.51	0.69			
	12	43	3.64	0.72			
Trust and identification (AI)	9	62	3.27	1.14	0.98	0.40	-
	10	71	3.07	0.94			
	11	54	3.25	0.90			
	12	43	3.37	0.97			
Loyalty (AI)	9	62	3.17	1.03	0.53	0.67	-
	10	71	3.33	0.92			
	11	54	3.37	0.81			
	12	43	3.31	0.84			
Recognition and recognition (SMUP)	9	62	3.03	1.07	1.10	0.35	-
	10	71	3.28	0.90			
	11	54	3.29	0.81			
	12	43	3.11	0.96			
Commitment (AI)	9	62	3.92	0.97	1.52	0.21	-
	10	71	3.85	0.87			
	11	54	4.07	0.79			
	12	43	3.70	0.81			
Self-disclosure (AI)	9	62	3.92	1.02	1.65	0.18	-
	10	71	3.92	0.90			
	11	54	4.08	0.86			
	12	43	3.67	0.84			
Loyalty (AI)	9	62	2.53	1.04	3.92	0.01*	9>12
	10	71	2.18	0.92			
	11	54	2.20	0.94			
	12	43	1.90	0.78			

\*p<0.05

## **Discussion**

This study examines the relationships among cyberbullying, peer relationships, and the purposes of using social networks via smartphones among high school students in terms of different variables. According to research findings; high school students generally think that cyberbullying is rare. Skilbred-Fjeld, Reme, and Mossige (2020) state that cyberbullying will decrease with increasing digital literacy and awareness. Individuals acting more consciously in digital environments is seen as a factor that reduces the risk of cyberbullying. However, high self-disclosure behavior shows that young people tend to express themselves and share personal information on social media.

The fact that self-disclosure behavior is so common reveals how effective social media is as a communication tool among young people. However, Yang et al. (2023) emphasized in their study that uncontrolled self-disclosure behavior makes individuals more vulnerable to cyberbullying. The strong positive relationship between social interaction and communication and recognition and being recognized shows that individuals' interactions on social media increase their search for social support and acceptance. This finding was supported by Craig et al.'s (2020) research. The fact that young people tend to be more recognized and accepted when they are active on social media strengthens the relationship between social media use and social acceptance.

The relationship between education level and commitment shows that as education level increases, young people will feel more secure and connected in their relationships on social media. Kofoed and Staksrud (2019) suggest in their research that educated individuals are more empathetic and sensitive, and therefore develop more positive social relationships in online environments. The fact that educated individuals are less likely to encounter cyberbullying and negative social experiences is also frequently emphasized in the literature (Ege, 2021; Tosun, 2019). The positive relationship between trust and identification with self-disclosure shows that individuals' self-expression skills and sense of trust come to the fore in social media use. A sense of trust in social media environments allows individuals to express themselves more comfortably, and this contributes to stronger and more positive peer relationships. However, this relationship of self-disclosure and trust can also create an environment open to misuse or abuse (Yang et al., 2023).

One of the most striking findings of the research is the negative relationships between cyberbullying and social interaction and communication, recognition and recognition, and education. These findings show that the increase in cyberbullying negatively affects the quality of social relationships. The studies of Kofoed and Staksrud (2019) also support these findings; it was stated that cyberbullying increases social isolation, reduces social interaction and creates distrust between individuals. These results regarding cyberbullying also emphasize the negative aspects of social media use. Social media environments can provide individuals with both positive social experiences and negative experiences. Yang et al. (2023) emphasize that awareness programs and digital literacy training are important to reduce the prevalence of cyberbullying on social media. Such training programs can enable individuals to act more consciously in online environments and prevent bullying behaviors.

These findings, based on structural model analysis, explain the effects of social media usage purposes and peer

relationships on cyberbullying. It is seen that social media usage purposes negatively predict cyberbullying (-0.24). This result reveals that social interaction, recognition and educational purposes that increase with social media use reduce the perception of cyberbullying. In the study conducted by Craig et al. (2020), findings were obtained that positive use of social media reduces bullying behaviors among individuals. The higher predictive power of peer relationships on cyberbullying (-0.44) shows that as relationships such as commitment, trust and identification strengthen, the perception of cyberbullying decreases. This finding supports the view that relationships based on trust among young people prevent bullying behaviors. The findings of Kofoed and Staksrud (2019) also show that cyberbullying is less common in situations where peer support and trust increase. This situation emphasizes the critical role of peer relationships in preventing cyberbullying.

Another important finding of the study is that social media usage purposes and peer relationships can together explain 39% of the change in cyberbullying. This finding shows that individuals' online interactions and social relationships have a significant impact on cyberbullying perception. In particular, directing social media use towards education, social interaction and communication purposes ensures that cyberbullying is less common (Şen Karadağ, 2022). In addition, it is seen that using social media environments as a means of self-expression and establishing personal relationships among young people contributes to reducing bullying behaviors. The research results are also supported by studies conducted by Chukwuere et al. (2020). Social learning theory can be considered to explain the relationship between social media usage purposes and peer relationships. According to Bandura's (1977) social learning theory, individuals learn through observation in social environments, and the positive social behaviors they encounter in online environments lead them to adopt these behaviors. In this context, it can be said that positive social interactions such as recognition and recognition, trust and identification on social media platforms encourage behaviors that reduce cyberbullying. The findings of the study reveal that using social media for the right purposes and by establishing trust-based relationships can reduce the negative effects on cyberbullying. However, there are also negative aspects of social media use. As Katırcı and Bulut (2024) stated, uncontrolled social media use and low digital awareness can increase cyberbullying cases. Therefore, it is important to be conscious while using social media.

According to the findings obtained in the study; It reveals how social media usage purposes, peer relationships and cyberbullying behaviors differ according to gender and grade level. In the findings based on gender, the fact that female's self-disclosure and loyalty scores are significantly higher than males may suggest that female share more emotionally and their perceptions of loyalty are stronger. This is consistent with the literature indicating that female tend to be more self-disclosing, especially in social relationships (Barker & O'Neill, 2020). On the other hand, the fact that female's average scores are lower in terms of cyberbullying indicates that female are less likely to engage in cyberbullying than males. This finding has also been frequently noted in studies addressing gender differences in cyberbullying (Smith & Slonje, 2020). The fact that males have higher cyberbullying scores may suggest that they are more likely to exhibit aggressive behaviors in online environments. According to social cognitive theory, males may be more likely to learn behaviors that demonstrate power and dominance (Bandura, 1977). This is consistent with previous research showing that the anonymous nature of social media can encourage aggression and bullying tendencies among males (Chang, 2020).

When we look at the findings obtained according to grade level, it is striking that cyberbullying scores are especially higher among 9th grade students. This finding reveals that cyberbullying behaviors are more common among younger students and that these behaviors decrease with age. The fact that social interactions become more complex during adolescence and young people have limited ways to express themselves may lead to cyberbullying being more common during this period (Craig et al., 2020). The decrease in cyberbullying among 12th grade students can be explained by the development of social skills and the increase in the tendency to resolve conflicts in more constructive ways as individuals get older. In related studies, it has been stated that young adolescents are more frequently involved in cyberbullying cases (Erdur-Baker, 2020). This situation presents an important finding, especially for understanding the effects of social media use on young individuals.

## **Conclusion**

When the results obtained in the study are examined;

- In general, the mean scores of high school students in the data collection tools are at a medium level. The lowest mean was for cyberbullying (Avg=2.23), and the highest mean was for the self-disclosure factor (Avg.=3.89).
- Social media usage purposes negatively affected the perception of cyberbullying. It was observed that as social media usage purposes, such as social interaction and communication, recognition and being recognized, increased, the perception of cyberbullying decreased.
- A negative relationship was found between peer relationships and cyberbullying. As positive peer relationships, such as trust and identification, commitment and self-disclosure, increased, the perception of cyberbullying decreased.
- The positive relationship between peer relationships and social media usage purposes showed that social media usage can increase social interaction among young people.
- No significant relationship was found between cyberbullying and the use of social media for entertainment purposes.
- Social media usage purposes and peer relationships together explained 39% of the change in cyberbullying perception. This finding shows that the effect of social media usage on peer relationships is significant.
- In the analyses by gender, female's self-disclosure and loyalty scores were found to be significantly higher than males'. This finding shows that female seek more emotional sharing and loyalty in social media use.
- Perception of cyberbullying differed by gender; female had lower cyberbullying scores than males.
- In the analyses by grade level, 9th grade students' cyberbullying scores were found to be significantly higher than 12th grade students. This finding shows that younger age groups are more exposed to cyberbullying.
- It was found that as the use of social media for educational purposes increases, the perception of cyberbullying decreases. Social media use for educational purposes allows individuals to develop more conscious and constructive interactions.

## **Recommendations**

In the context of the results, recommendations are presented to students, education administrators and policy makers:

### ***Suggestions for High School Students***

1. *Raising Consciousness in Social Media Use:* It is recommended that students be more careful about cyberbullying by using social media platforms consciously. It would be beneficial to attend awareness trainings on this issue.
2. *Time Management in Social Media Use:* Keeping social media usage under control and avoiding spending excessive time on extracurricular activities will contribute to both their academic success and mental health.
3. *Combating Cyberbullying:* It is recommended that they do not remain silent when they encounter cyberbullying and contact school counselors or authorized authorities. It is important for them to learn their rights regarding bullying.
4. *Strengthening Positive Peer Relationships:* It may be recommended that they increase their offline social interactions and focus on strengthening peer relationships outside of social media.
5. *Developing Empathy on Social Media:* It is recommended that they empathize, try to understand the feelings of others and develop constructive dialogues while communicating on social media.

### ***Suggestions for School Management***

1. *Organizing Awareness Programs:* Schools should organize awareness programs and workshops on cyberbullying, cybersecurity, and social media use.
2. *Increasing Counseling Services:* Psychological support and counseling services should be provided to students regarding social media and cyberbullying. Guidance units should be strengthened to better address problems originating from social media.
3. *Activities Strengthening Peer Relations:* Group work, club activities, and social events that will increase solidarity and trust among students should be organized.
4. *Developing Policies to Combat Cyberbullying:* Clear policies should be created in educational institutions to prevent cyberbullying, and disciplinary processes regarding these policies should be made transparent.
5. *Digital Citizenship Education:* Secondary schools should consider adding digital citizenship education to their curricula. Students should be supported in learning ethical and responsible behaviors on social media. An elective course can be offered.
6. *Strengthening School-Family Collaboration:* School-family collaboration should be increased so that families are also informed about social media and cyberbullying, and students are more careful in their use of social media.

### ***Recommendations for Policymakers***

1. *Incorporating Social Media Education into the Curriculum:* Classes and seminars should be organized



in schools and universities to develop conscious behaviors regarding social media use.

2. *Developing Legal Regulations Regarding Cyberbullying:* More effective legal regulations should be made to combat cyberbullying and it should be clearly stated how students will be protected if they encounter cyberbullying.
3. *Increasing Digital Security Awareness:* National campaigns should be organized to raise awareness among students and teachers about digital security.
4. *Collaboration with Social Media Companies:* Collaboration with social media companies should be made to prevent cyberbullying and joint strategies should be developed to ensure that young people are in a safer environment on social media platforms.

### **Tips for Families**

1. *Monitoring Social Media Usage:* Families should closely monitor their children's social media usage and be aware of the types of content they are exposed to online. However, it is important to respect privacy during this process and not to damage the relationship of trust.
2. *Raising Awareness About Cyberbullying:* Families should educate themselves about cyberbullying and its effects and establish an open dialogue with their children on this issue.
3. *Strengthening Social Skills:* Families should support their children in a way that will develop their social skills and sense of empathy. In addition to social media use, they should encourage their children to engage in physical activities, group work and face-to-face communication.
4. *Providing Digital Security Education:* They need to raise awareness in their children about the dangers they may encounter in the digital world and how to protect their personal information. It would be beneficial to provide information about secure password use, privacy settings and secure websites.
5. *Supporting Solutions:* Families should ensure that their children resort to the right solutions when they encounter cyberbullying. They can encourage them to not hesitate to report cyberbullying and to report it to the authorities. They should also show their children ways to get psychological support when needed.

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