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Investigation of The Relationship Between Social Skills, Emotion Regulation, and Internet Addiction of Middle School Students

Haydeh FARAJİ[1], Aysu FİDAN[2]

Abstract: This research aimed to investigate the relationship between middle school students' social skills, emotion regulation, and internet addiction. The study included 448 middle school students. The "Internet Addiction Test (IAT)," " The Matson Evaluation of Social Skills with Youngsters (MESSY)," " The Regulation of Emotions Questionnaire (REQ) for Adolescents " and "Socio-Demographic Information Form" were utilized. The data anaylsed with SPSS 25 by Independent Samples T-Test, ANOVA, Multiple Linear Regression and the PROCESS 3.5 macro. Emotion regulation predicts internet addiction. Moreover, a significant relationship was found between social skills and emotion regulation. While positive social behaviors did not predict internet addiction, negative social behaviors showed a prediction. External-dysfunctional and internal-dysfunctional emotion regulation partially mediated the relationship between social skills and internet addiction through negative social behaviors. Also a negative relationship found between parental internet supervision and internet addiction and negative social behaviours. There were positive relationship between parental internet supervision and internal

[1] Dr. Öğr. Üyesi, İstanbul Aydın Üniversitesi,Fen Edebiyat Fakültesi, Psikoloji Bölümü, haydehfaraji1@gmail.com
[2] Uzm. Psk., T.C. Milli Eğitim Bakanlığı, aysufidan97@gmail.com

emotion regulation. Another result of the study was that no difference was determined in positive and negative social behaviors between girls and boys. This result may be due to the characteristics of the region where the sample is located, or it may be due to the fact that gender roles are fading away today. In general the results reveal that supporting the development of social skills and emotional regulation skills of middle school students' and providing family supervision about internet use to them may be beneficial in preventing internet addiction.

Keywords: Internet addiction, Social skills, Emotion regulation, Middle school student

Ortaokul Öğrencilerinde Sosyal Beceri, Duygu Düzenleme ile İnternet Bağımlılığı Arasındaki İlişkinin İncelenmesi

Özet: Bu çalışmanın amacı sosyal becerileri, duygu düzenleme becerileri ve internet bağımlılığı düzeyleri arasında ilişkinin incelenmesidir. Katılımcılar 448 ortaokul öğrencisinden oluşmaktadır. Araştırmada, 'İnternet Bağımlılık Ölçeği, 'Matson Sosyal Beceri Ölçeği', 'Ergenler İçin Duygu Düzenleme Ölçeği' ve 'Kişisel Bilgi Formu' kullanılmıştır. Veriler IBM SPSS Statistics (25) programı kullanılarak analiz edilmiştir. Verilerin değerlendirilmesinde Bağımsız Örneklemler T-Testi, ANOVA, , Çoklu Lineer Regresyon Analizi ve PROCESS 3.5. macrodan yararlanılmıştır. İnternet bağımlılığı, duygu düzenleme ve sosyal beceriler arasında anlamlı bir ilişki mevcuttur. Duygu düzenleme internet bağımlılığını anlamlı düzeyde yordamaktadır. Ayrıca sosyal beceriler ile duygu düzenleme arasında da anlamlı bir ilişki bulunmuştur. Olumlu sosyal davranışlar internet bağımlılığını anlamlı düzeyde yordamazken, olumsuz sosyal davranışlar anlamlı bir yordayıcılık göstermiştir. Dışsal-işlevsiz ve içsel-işlevsiz duygu düzenleme, olumsuz sosyal davranışlar aracılığıyla sosyal beceriler ile internet bağımlılığı arasındaki ilişkiye kısmen aracılık etmektedir. Ayrıca ebeveyn internet denetimi ile internet bağımlılığı ve olumsuz sosyal davranışlar arasında da olumsuz bir ilişki bulunmuştur. Ebeveyn internet denetimi ile içsel duygu düzenleme arasında pozitif bir ilişki mevcuttur. Çalışmanın bir diğer sonucu kızlar ve erkekler arasında olumlu ve olumsuz sosyal davranışlarda bir farklılaşmanın belirlenmemiş olmasıdır. Bu sonuç örneklemin bulunduğu bölgenin özelliklerinden kaynaklanıyor olabileceği gibi cinsiyet rollerinin günümüzde silikleşiyor olmasından da kaynaklanmış olabilir. Genel olarak sonuçlar, ortaokul öğrencilerinin sosyal becerilerinin ve duygu düzenleme becerilerinin gelişiminin

desteklenmesinin ve internet kullanımı konusunda aile denetiminin sağlanmasının internet bağımlılığının önlenmesinde faydalı olabileceğini ortaya koymaktadır.

Anahtar Kelimeler: İnternet bağımlılığı, Sosyal beceriler, Duygu düzenleme, Ortaokul öğrencisi

Introduction

The Internet is used in almost all areas of life, such as sharing information, communicating, shopping, playing games, messaging, and spending leisure time (Kim et al., 2020). Because of the Internet serves to provide social interaction through online channels, it can decrease the perceptional need for can prevent face-to-face sociability, especially for people with social incapabilities who use avoidant coping strategies and become harmful to the social skills of the individual (Faraji and Tezcan, 2021). Any one can involve in internet addiction (IA) because of easy, fast, cheap, and latest technology (Liu et al., 2020). IA is defined as the desire and inability to prevent excessive use of the Internet, the loss of the value of the time spent without the Internet, the excessive tension and aggression of the person when he does not spend time on the Internet, and the harm in many areas of one's life (Young, 2004).

According to Social Control Theory (Hirschi, 1969), the combination of close ties to traditional social institutions (e.g., family, school) and strong prosocial values reduces the likelihood that individuals will engage in deviant behavior. During adolescence, the control power of the family over the child decreases, and it becomes difficult to restrict the internet activities of adolescents who need individualization. Despite some physical and psychological developments and changes, the adolescent does not yet have sufficient analysis and decision skills and sufficient self-regulation skills. These increase problematic internet usage (Faraji and Tezcan, 2021).

Individuals who cannot easily socialize in real life can freely express their feelings and thoughts on the Internet, which provides the opportunity to show themselves in the way they want to (Eraslan Çapan and Sarıçalı, 2016). The virtual environment, where they can hide their dislikes, is encouraging because they can communicate on issues that they cannot talk face-to-

face. Problematic internet use can negatively affect social relations and social skills accordingly (Çeliker and Aşiroğlu, 2020; Yalçın et al. 2020). Problematic internet use is also predicted by certain social abilities, such as risk coping, empathy and positive emotion skills, and conversation and social ease (Romero-López et al., 2020). Adolescents spend most of their time on the Internet, weakening face-to-face communication, and adolescents may turn to the Internet in order to escape from their daily problems (Arı, 2022). As a result, IA is increasing day by day, and unfortunately, most internet users are adolescents (Bütüner et al, 2022). Middle school students in adolescence are at risk of developing addiction in general and IA in particular, due to the fact that their mental development is not yet completed, the effect of the high hormonal levels of adolescents, and their limited experience (Günlü and Ceyhan, 2022; Machado et al, 2022; Dursun, 2022).

Adolescence is a time when many people's ability to control their emotions substantially improves; for others, however, it can also be the start or development of psychopathology, which is defined by difficulties controlling emotions (Haşimoğlu and Aslandoğan, 2018; Silvers, 2022). Emotion regulation skills (ERS) help adolescents respond to events in a constructive way, meet new people, and be approved by their peers (Sabatier et al, 2017). ERS play a role in the development of nurturing social relationships in adolescence, and the presence of nurturing social relationships also serves as a resource that improves ERS (Silvers, 2022). Adolescents with low ERS use the Internet in order to suppress their negative emotions or to escape from these emotions (Yu et al., 2013). At this point, increased internet use can serve as an escape from negative emotions experienced as a result of both lack of emotional regulation skills and lack of social skills.

Examining the causes of intense and excessive internet use among internet users and how these emotions are regulated is essential for developing effective interventions for IA. This study investigates social skills and emotion regulation, which is thought to be related to IA in adolescence, which refers to the developmental period of middle school students. The literature shows that difficulties in social skills and emotion regulation (ER) are associated with the development and prevalence of addiction-related problems (Karaer and Akdemir, 2019; Ohahanyohe Odije et al, 2023;She et al, 2023). The main hypothesis of the study is that

social skills plays a mediating role between ERS and IA. The results of this study are believed to have the potential to highlight for clinicians working with adolescents the significance of psychotherapeutic interventions that focus on social skills and emotional regulation issues in order to counteract maladaptive internet use in the context of IA issues.

Method

Participants

Middle school students in Istanbul will represent the population of this research. Sample selection was made using the convenience sampling method. The sample group will consist of students who are enrolled in middle schools in the Bağcılar district of Istanbul province during the 2021-2022 academic year. Due to the population being over 100,000, a sample size of 384 is sufficient to represent the population with a margin of error of 0.05 and a confidence interval of 95% (Ural and Kılıç, 2013).

Data Collection Instruments

The research was used to employ the Socio-Demographic Information Form, Internet Addiction Test (IAT), The Matson Evaluation of Social Skills with Youngsters (MESSY), and The Regulation of Emotions Questionnaire (REQ) for Adolescents.

Socio-Demographic Information Form

This form includes questions about socio-demographic information such as class level, gender, daily usage time, and parental supervision of internet usage of the individuals involved in the research.

Internet Addiction Test (IAT)

Developed by Young and adapted to Turkish by Bayraktar (Young 1998; Bayraktar, 2001). The scale consists of 20 items and uses a 6-point Likert scale. Ratings range from '0' for "Never" to '5' for "Always." The total score ranges from 0 to 100. Scores of 80 and above are defined as "Pathological Internet Users," scores between 50 and 79 as "Limited Symptom Users," and scores below 50 as "Non-Symptomatic Users". The scale, which was translated

from English into Turkish by Bayraktar (2001) within the framework of the research objectives, was examined by five members of the academic staff of Ege University, Faculty of Letters, Department of Psychology and the questions were adapted in a way not to disturb the integrity of meaning. The reliability of the translated test in terms of standardised alpha value. 91 and Spearman-Brown value. 87 in terms of Spearman-Brown value. Cronbach's Alpha value in this study determined as .805.

The Matson Evaluation of Social Skills with Youngsters (MESSY)

Developed by Matson, Rotatory, and Hessel, the Turkish adaptation of the scale was done by Bacanlı and Erdoğan (Matson et al.,1983; Bacanlı and Erdoğan, 2003). As a result of the factor analysis, it was seen that the items of the scale were gathered in two factors different from the original. Items with factor loadings lower than .30 were removed and the final version of the scale with 47 items was obtained. It was seen that the first of the obtained factors included the negative behaviour expressions in MESSY. Therefore, factor 1 was named as Negative Social Behaviours. Since it was seen that the positive behaviour statements in MESSY were collected in the second factor, factor II was named as Positive Social Behaviours. The reliability of the test was calculated with the repetition method. The correlation between the total scores obtained from the first administration of MESSY and the total scores obtained from the second administration was found to be r = .77 (p .01). In the subscales, the reliability coefficients were found as r = .70 (p .01) in the Negative Social Behaviours subscale and r = .74 (p .01) in the Positive Social Behaviours subscale. These findings show that the test-retest reliability of MESSY is statistically adequate. Item analysis was conducted to calculate the internal consistency of the scale. As a result of the analysis, item-total correlations of 41 items were found to be above .30. The total correlations of the remaining 7 items ranged between .15 and .29. The internal consistency coefficient of the scale was found as Alpha= .85. The internal consistency coefficient was Alpha= .68 for the Negative Social Behaviours subscale and Alpha= .74 for the Positive Social Behaviours subscale. The scale seems to have an internal consistency coefficient that can be considered sufficient. The scale was found to be valid and reliable. In this study, Cronbach's Alpha value was found to be .78.

The Regulation of Emotions Questionnaire (REQ) for Adolescents

Developed by Phillips and Power to assess adolescents' ER methods, the Turkish adaptation and reliability-validation study was conducted by Duy and Yıldız (Phillips and Power, 2007; Duy and Yıldız, 2014). Before the principal component analysis was performed on the data obtained from 899 participants, the KMO value (.79) and Bartlett Sphericity Test ($\chi 2 = 3620.323$, sd= 153, $p < .000$) values indicating the adequacy of the sample were examined and it was seen that the values obtained were adequate. The analysis was continued by using varimax vertical rotation technique and as a result, it was found that all items except one item in the original form of the 19-item BCAS were collected in the factors to which they belonged and the scale consisted of four factors as in the original form. The first sub-dimension of the scale consists of five items with factor loadings ranging between .53 and .77. The second sub-dimension consists of five items with factor loadings ranging between .57 and .67. The third sub-dimension consists of four items with factor loadings ranging between .50 and .85. The fourth sub-dimension consists of four items with factor loadings ranging between .55 and .76. When the fit indices obtained as a result of CFA applied to test the model with four latent variables consisting of 18 items were examined, RMSEA= .06, RMR= .09, SRMR= .06, GFI= .94, AGFI= .92, CFI= .93, NFI= .91 and NNFI= .92 were found.The scale consists of four subscales: internal functional, external functional, internal dysfunctional, and external dysfunctional emotion regulation. Duy and Yıldız found test-retest reliability coefficient as 0.51 for the internal functional emotion regulation (IFER) subscale; 0.70 for the external dysfunctional emotion regulation (EDER) subscale, 0.56 for the internal dysfunctional emotion regulation (IDER) sub-dimension and 0.52 for the external functional emotion regulation (EFER) sub-dimension (Duy and Yıldız, 2014). In this study, Cronbach's Alpha value was 0.808.

Data Analysis

All analyses related to the data were performed using SPSS 25. Prior to analysis, the assumption of normal distribution of the scales was checked by examining skewness and kurtosis values, which were found to be within the -3 to +3 range (Kline, 2011). Consequently, parametric tests were preferred.

To examine the relation between the variables, Pearson correlation analysis was employed. Independent Independent samples t-test and ANOVA were used to compare scale scores based on demographic variables. Model 4 was selected with PROCESS 3.5 macro and mediation analysis was conducted. Lastly, a confidence interval of 95% and a p-value of 0.05 were used as references for this research.

The skewness value of the internet addiciton scale is 0.772 and kurtosis value is 0.372. The skewness value of the IFER is -0.740 and kurtosis value is 0.603. The skewness value of the EDER is 1.279; and kurtosis value is 1.385. The skewness value of the IDER 0.411; and kurtosis value is -0.519. The skewness value of the EFER is -0.196 and kurtosis value is -0.346. The skewness value of the NSB is 1.190 and kurtosis value is 2.134. The skewness value of the PSB is -0.850 and kurtosis value is 0.255.

Results

Table 1. Demographic Characteristics of Participants

		n	**%**
Gender	Female	224	50.0
	Male	224	50.0
	Total	448	100.0
Grade Level	5th Grade	95	21.2
	6th Grade	103	23.0
	7th Grade	131	29.2
	8th Grade	119	26.6
	Total	448	100.0
Parental Internet Supervision	Never	32	7.1
	Sometimes	163	36.4
	Often	142	31.7
	Always	111	24.8
	Total	448	100.0

Fifty percent of the participants are female, and fifty percent are male. Twenty-one point two percent are in the 5th grade, twenty-three percent in the 6th grade, twenty-nine point two percent in the 7th grade, and twenty-six point six percent in the 8th grade. When asked about parental internet supervision, seven point one percent indicated that their families never supervise their internet usage, thirty-six point four percent indicated sometimes, thirty-one point seven percent indicated often, and twenty-four point eight percent indicated always.

Table 2. Distribution of Participants Based on Internet Addiction Levels

		N	%
Internet Addiction Level	Average Internet User	404	90.2
	Risky Internet Usage	42	9.4
	Internet Addiction	2	0.4
	Total	448	100.0

Considering the findings in Table 3, 90.2% of the participants were average internet users, 9.4% were risky internet users, and 0.4% were internet addicts.

Table 3. Descriptive Values of Internet Addiction Test (IAT), The Regulation of Emotions Questionnaire for Adolescents, and The Matson Evaluation of Social Skills with Youngsters (MESSY)

	N	Min	Max	Range	$\bar{X}$	Sd.	Variance
Internet Addiction Test (IAT)	448	0	85	85	27.46	15.88	252.02
The Regulation of Emotions Questionnaire for Adolescents							
Internal Functional Emotion Regulation (IFER)	448	4	20	16	15.18	3.34	11.14
External Dysfunctional Emotion Regulation (EDER)	448	5	23	18	8.25	3.44	11.82
Internal Dysfunctional Emotion Regulation (IDER)	448	5	25	20	12.25	4.73	22.36
External Functional Emotion Regulation (EFER)	448	4	20	16	11.82	3.33	11.12
The Matson Evaluation of Social Skills with Youngsters (MESSY)							
Negative Social Behaviors (NSB)	448	23	96	73	39.43	11.51	132.55
Positive Social Behaviors (PSB)	448	54	120	66	97.48	13.91	193.44

The mean for Internet Addiction Test ($\bar{X}$=27.46, Sd.=15.88), IFER ($\bar{X}$=15.18, Sd.=3.34), EDER ($\bar{X}$=8.25, Sd.=3.44), IDER ($\bar{X}$=12.25, Sd.=4.73), EFER ($\bar{X}$=11.82, Sd.=3.33), NSB ($\bar{X}$=39.43, Sd.=11.51), and PSB ($\bar{X}$=97.48, Sd.=13.91) are provided in Table 4.

2.1.Correlation Analysis:

In this section, a Pearson Correlation Analysis was conducted to examine the relationships between variables. The results of the findings are presented in Table 4.

Table 4. Relationships Among Internet Addiction, Emotion Regulation, and Social Skills

	1	**2**	**3**	**4**	**5**	**6**	**7**
1- IA	1						
2- IFER	-.095*	1					
3- EDER	.527**	-.183**	1				
4- IDER	.432**	0.048	.424**	1			
5- EFER	.177**	.305**	-0.024	.121*	1		
6- NSB	.488**	-.236**	.690**	.504**	-0.006	1	
7- PSB	-.158**	.302**	-.206**	-.103*	.410**	-.324**	1

***p<0.01, *p<0.05 Test Applied: Pearson Correlation Test*

IA: Internet Addiction Scale, IFER: Intrinsic Functional Emotion Regulation, EDER: External Dysfunctional Emotion Regulation, IDER: Intrinsic Dysfunctional Emotion Regulation, EFER: External Functional Emotion Regulation, NSB: Negative Social Behaviors, PSB: Positive Social Behaviors

The Internet Addiction and IFER showed a low-level negative correlation (r=-.095, p<0.05). The EDER and Internet Addiction showed moderate positive correlations (r=.527, p<0.01), the IDER and Internet Addiction showed moderate positive correlations (r=.432, p<0.01), and the EFER and Internet Addiction showed a low-level positive correlation (r=.177, p<0.01). The Internet Addiction and NSB showed a moderate positive correlation (r=.488, p<0.01), while PSB and the Internet Addiction Test showed a low-level negative correlation (r=-.158, p<0.01)..

Finally, a moderate positive correlation (r=.410, p<0.01) was identified between PSB and EFER. Additionally, there was a moderate positive association (r=.302, p<0.01) between PSB and IFER and a low-level negative correlation (r=-.236, p<0.01) between NSB and IFER. Additionally, a low-level negative corelation (r=-.206, p<0.01) was discovered between PSB

and EDER, while a significant positive correlation (r=.690, p<0.01) was detected between NSB and EDER.

Furthermore, a low-level negative association (r=-.103, p<0.05) was discovered between PSB and IFER, while a substantial positive correlation (r=.504, p<0.01) was noted between negative social behaviors and IFER. Lastly, a moderately positive connection between PSB and EFER was found (r=.410, p<0.01).

4.2.Comparison Analysis

In this section, Independent Samples t-test, ANOVA test were conducted to compare the scores obtained from the Internet Addiction Test, The Regulation of Emotions Questionnaire for Adolescents, and The Matson Evaluation of Social Skills with Youngsters (MESSY)based on demographic variables. The results of the findings are presented in Tables 5 to 7.

Table 5. Comparison of Internet Addiction, Regulation of Emotions for Adolescents, and The Social Skills by Gender

		n	$\bar{X}$	**SD**	t	**Df.**	**p**
IA	Female	224	24.89	14.70	-3.46	446	0.001*
	Male	224	30.02	16.61			
IFER	Female	224	15.47	3.00	1.85	431.133	0.066
	Male	224	14.89	3.62			
EDER	Female	224	8.21	3.39	-0.26	446	0.794
	Male	224	8.29	3.49			
IDER	Female	224	13.03	5.00	3.53	436.522	0.000*
	Male	224	11.47	4.31			
EFER	Female	224	11.86	3.41	0.21	446	0.832
	Male	224	11.79	3.26			
Negative Social Behaviors	Female	224	39.47	11.03	0.07	446	0.941
	Male	224	39.39	12.00			
Positive Social Behaviors	Female	224	97.30	14.15	-0.27	446	0.786
	Male	224	97.66	13.69			

p<0.05 Test Used: Independent Samples t-test

IA: Internet Addiction Scale, IFER: Intrinsic Functional Emotion Regulation, EDER: External Dysfunctional Emotion Regulation, IDER: Intrinsic Dysfunctional Emotion Regulation, EFER: External Functional Emotion Regulation, NSB: Negative Social Behaviors, PSB: Positive Social Behaviors

For the subdimensions IFER, EDER, EFER, NCB and PCB no significant differences were observed among the groups based on gender (p>0.05).

When examining the scores obtained from the Internet Addiction Test (t(446)=-3.46, p<0.05) in relation to gender, a significant difference was found among the groups. Comparing the means, it can be seen that males have higher scores compared to females.

For the subdimension IDER (t(436.522)=3.53, p<0.05), significant differences were found among the groups based on gender. Comparing the means, it can be seen that females scored higher than males.

Table 6. Comparison of Internet Addiction, Regulation of Emotions, and Social Skills by Grade Level

		N	**$\bar{X}$**	**SD**	**Variance**	**S.S**	**Df.**	**M.S**	**F**	**p**
IA	5th Grade	95	24.37	14.58	Between groups	2989.37	3	996.46	4.03	0.008*
	6th Grade	103	25.91	14.86	Within groups	109663.83	444	246.99		
	7th Grade	131	31.19	17.47	Total	112653.19	447			
	8th Grade	119	27.15	15.27						
	Total	448	27.46	15.88						
IFER	5th Grade	95	15.19	3.76	Between groups	13.65	3	4.55	0.41	0.748
	6th Grade	103	15.21	3.27	Within groups	4965.34	444	11.18		
	7th Grade	131	14.95	3.52	Total	4978.99	447			
	8th Grade	119	15.41	2.82						

	Total	448	15.18	3.34						
EDER	5th Grade	95	7.42	2.74	Between groups	125.85	3	41.95	3.61	0.013*
	6th Grade	103	8.15	3.55	Within groups	5159.65	444	11.62		
	7th Grade	131	8.92	3.70	Total	5285.50	447			
	8th Grade	119	8.25	3.44						
	Total	448	8.25	3.44						
IDER	5th Grade	95	10.73	4.16	Between groups	490.38	3	163.46	7.63	0.000*
	6th Grade	103	11.48	4.43	Within groups	9506.11	444	21.41		
	7th Grade	131	13.28	4.81	Total	9996.50	447			
	8th Grade	119	13.01	4.94						
	Total	448	12.25	4.73						
EFER	5th Grade	95	12.19	3.46	Between groups	92.76	3	30.92	2.81	0.039*
	6th Grade	103	11.44	3.15	Within groups	4878.31	444	10.99		
	7th Grade	131	12.33	3.10	Total	4971.07	447			
	8th Grade	119	11.31	3.56						
	Total	448	11.82	3.33						
NSB	5th Grade	95	35.47	8.91	Between groups	2179.67	3	726.56	5.65	0.001*
	6th Grade	103	39.40	12.31	Within groups	57070.04	444	128.54		
	7th Grade	131	41.60	11.33	Total	59249.71	447			
	8th Grade	119	40.22	12.16						

	Total	448	39.43	11.51						
PSB	5th Grade	95	100.68	12.94	Between groups	1497.87	3	499.29	2.61	0.051
	6th Grade	103	95.67	13.30	Within groups	84969.91	444	191.37		
	7th Grade	131	97.69	14.05	Total	86467.78	447			
	8th Grade	119	96.25	14.70						
	Total	448	97.48	13.91						

p<0.05 Test Used: One-Way Analysis of Variance (ANOVA)

IA: Internet Addiction Scale, IFER: Intrinsic Functional Emotion Regulation, EDER: External Dysfunctional Emotion Regulation, IDER: Intrinsic Dysfunctional Emotion Regulation, EFER: External Functional Emotion Regulation, NSB: Negative Social Behaviors, PSB: Positive Social Behaviors

For the subdimensions, IFER, positive social behaviors and grade level did not result in significant differences among the groups ($p>0.05$).

When examining the scores obtained from the IA ($F(3.444)=4.03$, $p<0.05$) in relation to grade level, significant differences were found among the groups. Evaluating the Tukey results, it can be seen that students in 7th grade scored higher than those in 5th grade.

For the subdimension EDER ($F(3.444)=3.61$, $p<0.05$), significant differences were found among the groups based on grade level. Evaluating the Games-Howell results, students in 7th grade scored higher than those in 5th grade.

For the subdimension IDER ($F(3.444)=7.63$, $p<0.05$), significant differences were found among the groups based on grade level. Evaluating the Tukey results, students in 7th grade scored significantly higher than those in 5th and 6th grades, and students in 8th grade scored higher than those in 5th grade.

For the subdimension EFER ($F(3.444)=2.81$, $p<0.05$), significant differences were found among the groups based on grade level. Evaluating the Tukey results, students in 7th grade scored higher than those in 8th grade.

For the subdimension negative social behaviors (F(3.444)=5.65, p<0.05), significant differences were found among the groups based on grade level. Evaluating the Games-Howell results, students in 7th and 8th grades scored higher than those in 5th grade.

Table 7. Comparison of Internet Addiction, Regulation of Emotions, and Social Skills with by Parental Internet Supervision

		n	$\bar{X}$	SD	Var. K.	S.S	Df.	M.S	F	p
IA	Never	32	34.47	17.14	Between groups	2919.71	3	973.24	3.94	0.009*
	Sometimes	163	27.74	15.57	Within groups	109733.49	444	247.15		
	Often	142	28.18	15.74	Total	112653.19	447			
	Always	111	24.09	15.49						
	Total	448	27.46	15.88						
IFER	Never	32	14.66	3.60	Between groups	117.42	3	39.14	3.57	0.014*
	Sometimes	163	14.63	3.31	Within groups	4861.57	444	10.95		
	Often	142	15.42	3.16	Total	4978.99	447			
	Always	111	15.86	3.40						
	Total	448	15.18	3.34						
EDER	Never	32	9.13	4.05	Between groups	55.64	3	18.55	1.57	0.195
	Sometimes	163	8.45	3.24	Within groups	5229.86	444	11.78		
	Often	142	8.18	3.23	Total	5285.50	447			
	Always	111	7.78	3.75						
	Total	448	8.25	3.44						
IDER	Never	32	14.66	4.64	Between groups	392.67	3	130.89	6.05	0.000*
	Sometimes	163	12.82	5.00	Within groups	9603.83	444	21.63		
	Often	142	11.95	4.29	Total	9996.50	447			
	Always	111	11.12	4.56						

	Total	448	12.25	4.73						
EFER	Never	32	11.84	3.20	Between groups	19.83	3	6.61	0.59	0.620
	Sometimes	163	11.80	3.18	Within groups	4951.24	444	11.15		
	Often	142	11.59	3.23	Total	4971.07	447			
	Always	111	12.15	3.73						
	Total	448	11.82	3.33						
NSB	Never	32	45.41	15.88	Between groups	2220.55	3	740.18	5.76	0.001*
	Sometimes	163	40.70	10.13	Within groups	57029.16	444	128.44		
	Often	142	38.61	10.34	Total	59249.71	447			
	Always	111	36.88	12.61						
	Total	448	39.43	11.51						
PSB	Never	32	92.72	15.12	Between groups	1500.05	3	500.02	2.61	0.051
	Sometimes	163	96.36	14.06	Within groups	84967.73	444	191.37		
	Often	142	98.16	13.39	Total	86467.78	447			
	Always	111	99.61	13.68						
	Total	448	97.48	13.91						

**p<0.05 Test Used: One-Way Analysis of Variance (ANOVA)*

IA: Internet Addiction Scale, IFER: Intrinsic Functional Emotion Regulation, EDER: External Dysfunctional Emotion Regulation, IDER: Intrinsic Dysfunctional Emotion Regulation, EFER: External Functional Emotion Regulation, NSB: Negative Social Behaviors, PSB: Positive Social Behaviors

For the subdimensions EDER, EFER, and positive social behaviors, no significant differences were observed among the groups based on parental internet supervision ($p>0.05$).

When examining the scores obtained from the IA ($F(3.444)=3.94$, $p<0.05$) in relation to parental Internet supervision, significant differences were found among the groups. Evaluating the Tukey results, it can be seen that individuals who are never supervised by their parents in internet usage scored higher than those who are always supervised.

For the subdimension IFER (F(3.444)=3.57, p<0.05), significant differences were found among the groups based on parental internet supervision. Evaluating the Tukey results, individuals who are always supervised scored higher than those who are sometimes supervised.

For the subdimension IDER (F(3.444)=6.05, p<0.05), significant differences were found among the groups based on parental internet supervision. Evaluating the Tukey results, individuals who are never supervised scored significantly higher than those who are sometimes and often supervised, and those who are sometimes supervised scored higher than those who are always supervised.

For the subdimension NSB (F(3.444)=5.76, p<0.05), significant differences were found among the groups based on parental internet supervision. Evaluating the Games-Howell results, individuals who are sometimes and never supervised scored higher than those who are always supervised.

2.3.Mediator Role Analysis

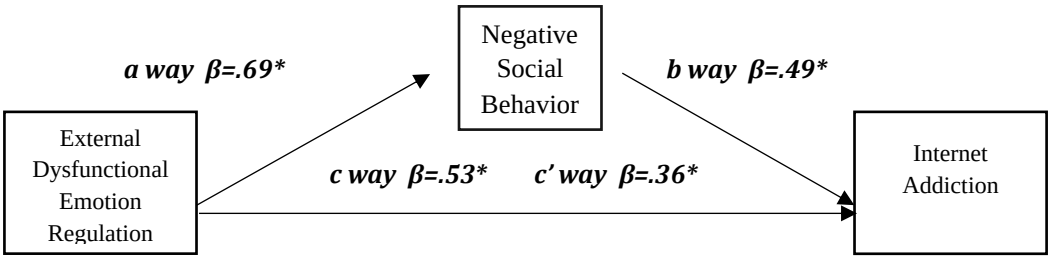
In this section, the PROCESS 3.5 macro was employed to examine the role of the mediator variable in the relationship between the independent and dependent variables. The results of the findings are presented in Tables 8 and 9.

Table 8. Results of the Mediating Role of Negative Social Behaviors in the Prediction of Internet Addiction by External Dysfunctional Emotion Regulation

Model		*R*	R^2	*B*	*SE*	*B*	*T*	*P*	**Lower Bound**	**Upper Bound**
	(Constant)	.29	.27	7.40	1.66		4.46	0.000*	4.14	10.66
1	**EDER**			2.43	0.19	0.53	13.09	0.000*	2.07	2.80
	(Constant)	.36	.30	0.72	2.23		0.32	0.746	-3.67	5.12
	EDER			1.68	0.25	0.36	6.66	0.000*	1.18	2.17
2	**NSB**			0.33	0.08	0.24	4.36	0.000*	0.18	0.48
	Indirect Total Effect (Mediator)			0.76	0.22				0.34	1.18

**p<0.05 Test Applied: PROCESS 3.5*

Based on the results in the table, it is observed that in the first model, EDER, an independent variable, explains 27% of the variance in the dependent variable, which is the IA Test score. In the second stage, NSB are included in the model as an independent variable. NSB an independent variable, explain 3% of the variance in the dependent variable. According to the findings, EDER and NSB together explain 30% of the variance in the dependent variable. The beta value of EDER decreases from .53 to .36 after adding the independent variable of NSB in the second stage. To further assess this decrease, a bootstrapping analysis was conducted with 5000 resamples and a 95% confidence interval option. The results indicated that the lower and upper bounds did not include 0. Consequently, it was determined that there is a partial mediation according to the findings of the mediator role analysis.



**p<0.05*

Figure 1. Beta Coefficients for the Mediating Role of Negative Social Behaviors in the Prediction of Internet Addiction by External Dysfunctional Emotion Regulation

Table 9. Results of the Mediating Role of Negative Social Behaviors in the Prediction of Internet Addiction by Internal Dysfunctional Emotion Regulation

Model		*R*	R^2	*B*	*SE*	*β*	*T*	*P*	**Lower Bound**	**Upper Bound**
	(Constant)	.29	.18	9.67	1.88		5.14	0.000*	5.97	13.37
1	**IDER**			1.45	0.14	0.43	10.13	0.000*	1.17	1.73
	(Constant)	.36	.28	-2.50	2.36		-1.06	0.291	-7.13	2.14
	IDER			0.84	0.16	0.25	5.38	0.000*	0.53	1.15
2	**NSB**			0.50	0.06	0.36	7.79	0.000*	0.37	0.62
	Indirect Total Effect (Mediator)			0.61	0.12				0.39	0.86

**p<0.05 Test Applied: PROCESS 3.5*

Based on the results in the table, it is observed that in the first model, IDER, an independent variable, explains 18% of the variance in the dependent variable, which is the Internet

Addiction Test score. In the second stage, NSB are included in the model as an independent variable. NSB, explain 10% of the variance in the dependent variable. According to the findings, IDER and negative social behaviors together explain 28% of the variance in the dependent variable. The beta value of IDER decreases from .43 to .25 after adding the independent variable of negative social behaviors in the second stage. Similarly, bootstrapping analysis was performed with 5000 resamples and a 95% confidence interval option, revealing that the lower and upper bounds did not include 0. As a result, partial mediation was determined according to the findings of the mediator role analysis.

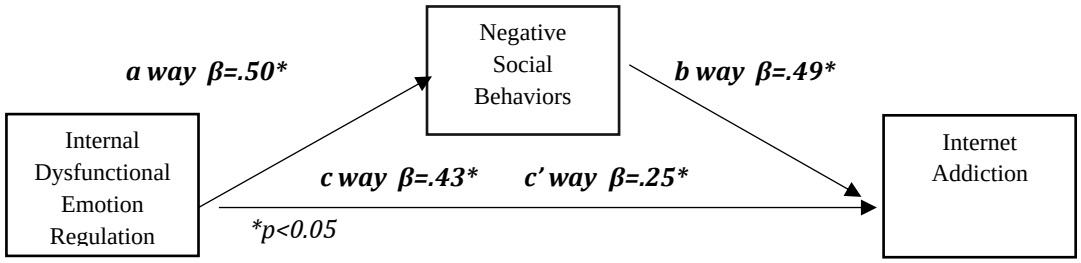


Figure 2. Beta Coefficients for the Mediating Role of Negative Social Behaviors in the Prediction of Internet Addiction by Internal Dysfunctional Emotion Regulation

Discussion and Conclusion

The aim of this research was to examine the relationship between IA, social skills, and ERS. It was found that 9.4% of the students were at risk of IA, and only 0.4% were identified as internet addicts. The prevalence of IA in adolescents has been reported as 1-9% in European countries, 2-18% in Asian countries, and 1-12% in Middle Eastern countries (Warthberg et al., 2017). Although the results are surprising due to the widespread use of the Internet and the high Internet usage among middle school students, it is believed that the data might have been affected by collecting information from healthy individuals in a school environment, which could lead to underreporting of internet usage frequency and duration, resulting in lower rates of IA. Additionally, the low prevalence of IA may be attributed to the fact that students predominantly use internal functional ERS and external non-functional ERS to a lesser extent. Similar findings have been reported (Atalay and Özyürek, 2021). Similarly, Liang et al. also stated that non-functional ERS are effective in IA (Liang et al., 2021).

The main hypothesis of the study was that social skills plays a mediating role between ER and IA and it verified. Results showed that negative social behaviors play a mediating role between both internal dsyfuntional ERS and IA and also between external dsyfuntional ERS and IA. External resources that can be used to regulate emotions that cannot be internally regulated include two groups. The first one is closely related to social skills and includes; social support systems, self expression and the second group is addictive substances. In this regard, individuals' weak social support skills will reduce their access to harmonious external ERS and will open the door to various addictions (Maniaci et al., 2017; Eker and Taş, 2022; Weiss et al., 2022). But regards to its cheap and easily accessible nature it's easier to become addicted to the internet especially in younger ages when the individual has financial dependency to family. Based on the research findings, ERS, and social skills were found to be predictors of IA in middle school students. In middle school students, IA was negatively related to internal functional ER. The negative relationship between IA and internal functional ER suggests that individuals may use the Internet as an external resource to distance themselves from negative emotions. Individuals with lower ERS may use the Internet mainly to alter their moods, which could lead to addiction (Villani et al., 2018; Amendola et al., 2019; Salek Ebrahimi et al., 2019; Ateş and Sağar, 2021; Quaglieri et al., 2021). Additionally, the research findings of Sağar and Özçelik (2022), which show a negative relationship between internet-related social media addiction and internal functional ER, support these results. Also external dysfunctional emotin reguulation has a positive relationship with IA.

This study show that increase in external functional ER is raleted with increase in IA. ER difficulties play a role in the development of IA (Budak, 2017; Ateş and Sağar, 2021). The positive relationship between external functional ER and IA is contrary to what was expected. This situation might be explained by the use of the Internet for accessing social support networks like in hikikomori syndrome (Faraji and Tezcan, 2021). Hikikomori syndrome used to refer to young people who increasingly live on their own, have exaggerated internet use, and have very limited social contacts than those mediated through online networking (Kato et al., 2018). Similarly, in the study by Ercengiz and Şar, a positive relationship was found between external functional ER and IA (Ercengiz and Şar, 2017). They suggest that this result may be due to the questions in the emotion regulation scale's external functional subscale

covering social support. Koo and Kwon similarly argue that in the relationship between IA and ER, individuals often obtain external ER through the Internet quickly and easily (Koo and Kwon, 2014). Additionally, Chen et al. (2016) have expressed that as ER difficulties increase, individuals' mobile phone usage also increases.

In the research, there is a negative relationship between middle school students' levels of IA and positive social behaviors and a positive correlation between NSB. Social skills are worse among students who are more addicted to the internet. These research findings align with the existing literature (Ercengiz and Şar, 2017; Aslan et al., 2022; Arslan and Taş, 2022). However, Duran Okur and Özkul (2015) found that the rise in IA is paralel with rise in social skills which they explained by the positive contribution of the Internet to social communication. Additionally, Xu, Turel, and Yuan (2012) stated that adolescents turn to the Internet for the purpose of socializing. The Internet also offers individuals the option of anonymity, making them feel safer (Khatcherian et al., 2022).

In the research, social behaviors were found to be positively related with functional and negatively related with non-functional ER (both internal and external functional).Similarly, negative social behaviors were positively correlated with internal and external non-functional ER and negatively correlated with internal functional ER, supporting these relationships. Duy and Yıldız (2014) found similar results, reporting higher degree of social behaviors related with lower degrees of dysfunctional ER higher degrees of functional ER. Meyer et al. (2014) stated that children with coping skills for emotions display more positive social behaviors. ER plays an important role in supporting positive social behavior (Blair et al., 2015). Adolescents' ERS positively affect social skills as they enable them to understand the emotions of others. In addition, adolescents with positive social skills can improve their emotional regulation skills when they engage in positive social behaviors (Laghi et al., 2018). Adolescents who possess ERS tend to be successful in their social relationships, whereas those who cannot control their emotions may experience social difficulties (Duman et al., 2019). In the research, male students were found to have higher levels of IA compared to female students. This could be attributed to the fact that males tend to use the Internet more for social networking, gaming, and watching videos, and they may prefer spending more time

alone, which they can do online. These factors might contribute to the higher level of IA observed among males (Anlayışlı and Bulut Serin, 2019). There are similar studies which found that males have higher levels of IA compared to females (Fumero et al., 2018; Hassan et al., 2020; Pan et al., 2020). In the research, it was found that there is no significant difference between male and female students' social skill levels. Some studies in the literature support this result (Matson et al., 1986; Arı and Yaban, 2016; Çepikkurt and Fındık, 2017; Pala Özçelik, 2020). Both girls and boys in middle school experience similar problems, such as feeling misunderstood by others and peer bullying, which might be the reason for the lack of differentiation. Additionally, factors such as family gender attitudes and cultural differences are also believed to influence the results. However, there are also studies in the literature that contradict the findings of this research (Yavuzarslan Gök, 2017; Arslan and Taş, 2022). These studies suggest that women have higher social skill levels compared to men. They attribute this difference to women being more outgoing in their social lives than men. Furthermore, the fact that women tend to seek emotional support by communicating with their environment might explain why their social skills levels are higher than men's (Arslan and Taş, 2022).

This research indicated that girls have higher degrees of internal non-functional ER. Çolak (2020) has similar findings. This is believed to be due to girls' tendency for rumination and overthinking. Additionally, it is thought to stem from girls' inclination towards introversion and internalizing their emotions during adolescence. Supporting findings can be found in the literature (Şenel and Çakmak Tolan, 2022). Taking into account societal gender roles, it is believed that anxiety and internalizing behaviors are more pronounced in females, which may explain the higher use of internal non-functional ER. Hughes and Gullone (2011) explain this difference by girls sharing their emotions and thoughts more with others. There are also studies which found no difference about ER by gender (Budak 2017; Bozkurt-Yükçü and Demircioğlu, 2017; Haşimoğlu and Aslandoğan, 2018). This result is explained by the level of education, conscious parents, and pre-school education. Also the cultural background of Turkey might have affected the NFER of the girls. Turkey belongs to a collectivist and patriarchal culture. A cultural background like that creates a tendency for self silencing and internalizing (Kaya and Çok, 2021). This perceived as the root which lies behind NFER of the girls.

This study found that IA degress differ by grade level. IA levels were highest among 7th-grade students, followed by 8th-grade, 6th-grade, and 5th-grade students. Similar studies in the literature have also shown differences in IA levels based on grade levels (Karabulut, 2019; Ünlü and Çeviker, 2022). The higher internet usage among 7th-grade students compared to 8th-grade students is believed to be related to the fact that 8th-grade students are in their exam year. Additionally, the increasing prevalence of mobile phones with age and reduced parental control may also contribute to this difference.

Current study showed that negative social skill levels differ by grade level. This finding aligns with the studies by Aslan, Başcıllar, Karataş (2022) and Duran Okur and Özkul (2015), which suggest that negative social behaviors increase with age. However, Çetin and Alkan Ersoy (2017) said there is no difference between age and social skills but found that 8th-grade students had higher scores in negative social skills than students in other grade levels. Among the grades, 7th-grade students had the highest negative social behaviors scores. This may be attributed to the students strengthening their relationships over the course of four years, experiencing common issues together, and feeling a sense of attachment due to graduation or separation. In contrast to this research, Pala Özçelik (2020) suggests that social skills increase with age and grade level.

This study indicated that external functional, external non-functional, and internal non-functional ER differs by grade level. When examining the groups where this difference exists, it was observed that external non-functional ER differs between 7th-grade and 8th-grade students, while internal non-functional ER differs between 5th-grade and 7th-grade, 5th-grade and 8th-grade, and 6th-grade and 7th-grade students. 7th-grade students scored higher in internal non-functional and external non-functional ER, followed by 8th-grade, 6th-grade, and 5th-grade students. However, some studies, like Haşimoğlu and Aslandoğan (2018), did not find significant differences between ER and grade level. This is consistent with research supporting that emotional regulation increases with age (Theurel and Gentaz, 2018). On the other hand, in the study of Zimmermann and Iwanski (2014), there was a decrease in adolescents' strategies in middle adolescence (13-15 years old) compared to early or late

adolescence indicates that it tends to show. It can be explained by emotional difficulties and conflicts with parents during this period.

In the research, it was found that IA levels of middle school students differ by how their parents monitor their internet usage. Students whose internet usage is never monitored by their parents have higher IA scores compared to those whose internet usage is continuously monitored. Unsupervised adolescents may be more prone to engage in risky behaviors, making parental control important in preventing IA (Yüksel et al., 2020; Özaltın et al., 2022; Moçoşoğlu and Yorulmaz, 2023).

This research found students' social skill levels differ their parents' supervision of internet usage. Internet usage and IA and also internal functional ER and internal non-functional ER differ by parental supervision. The increase in parental supervision is associated with decrease in negative social behaviors. Adolescents with more parental supervision exhibit superior prosocial, communicative, and emotional control abilities (Brajša-Žganec, 2019). But overcontrol of the adolescent by his parents leads to low self regulation (Moilanen and Lynn Manuel, 2019). Similarly Chen and Fan (2024) showed that being so strict about the internet usage time increase problematic internet usage for adolescents while restrictions on content viewed online reduced chances of problematic internet usage for these adolescents. It is assumed that because they lack self-regulation, unsupervised teenagers may spend more time online. Furthermore, during adolescence, when withdrawal tendencies are prevalent, unsupervised adolescents may turn to the Internet to fulfill their emotional needs, which could contribute to higher scores in internal non-functional ER. It is also suggested that adolescents may predominantly use internal functional and internal non-functional ER strategies (Kılınç and Önder, 2019). Adolescence is a period of boundary problems. That's why parental control is important in preventing IA. Similarly, in Martin's et al. (2020) study, IA was less common in adolescents under parental control.

The results of the study showed that social skills play a mediating role between emotion regulation and IAS. It indicates that when lack of emotion regulation ability meet with unefficient social skills adolescents spent more time on internet. The study also indicates that external functional emotion regulation and IA are related. This result shows internet is

not totally evil and sometimes people use it as a facilitator to reach some social support for regulating their emotions. Another prominent result of the study is the good enogh supervision of parents, limiting time and cites to protect child without being too authoritarian, enables them to have internal emotion regulation abilities and also protects them from negative social behaviours and IA.

The suprizing result of the study is that there wasn't any significant difference between boys and girls negative social behaviors. It is suprizing because of the cultural background of Turkey do not permits girls to act in a manner which might have perceived as nasty or immoral. While girls are receiving punishment when they cross boundries on the contrary boysa draw applause and seen as being funny or brave. With all this this results might occured because of the Bağcılar's population's micro culture which is a outskirt district of Istanbul/Turkey. In slums where poverty and low education levels prevail, the obligation of girls to be gentle and sweet is loosened and negative masculine behaviors, highlighted by the emphasis on being strong on the axis of the primitive survival instinct, prevail. Also another root of this result might be the change in the gender roles made the distinction between expected social behaviours between boys and girls disappearing.

The research was conducted with 448 students studying in public schools in Bağcılar district of Istanbul/Turkey. Therefore, it is thought that there may be a limitation in the sample's ability to represent the universe.

References

Amendola, S., Spensieri, V., Guidetti, V., & Cerutti, R. (2019). The relationship between difficulties in emotion regulation and dysfunctional technology use among adolescents. *Journal of Psychopathology*, *25*(1), 10-17.

Anlayışlı, C. ve Bulut Serin, N. (2019). Lise öğrencilerinde internet bağımlılığı ve depresyonun cinsiyet, akademik başarı ve internete giriş süreleri açısından incelenmesi. *Folklor/Edebiyat. 25*(97), 753-767.

Arı, F. (2022). İnternet bağımlılığının sonrası: Netlessfobi ve sanallaşan kimlik. *Uluslararası Sosyal Hizmet Araştırmaları Dergisi*. *2* (1), 85-96.

Arı, M. ve Yaban, H. (2016). Okul öncesi dönemdeki çocukların sosyal davranışları: mizaç ve duygu düzenlemenin rolü. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi.* 31(1), 125-141.

Arslan, A., Taş, İ. (2022). Ortaokul öğrencilerinde oyun bağımlılığı ile sorumluluk duygusu-davranışı ve sosyal beceriler. *Yaşadıkça Eğitim*. *36*(3), 716-731.

Aslan, H., Başcıllar, M., Karataş, K. (2022). Ergenlerde dijital oyun bağımlılığı ile sosyal beceriler arasındaki ilişki. *Bağımlılık Dergisi*. *23*(3), 266-274.

Atalay, D. ve Özyürek, A. (2021). Ergenlerde duygu düzenleme stratejileri ve ebeveyn tutumları arasındaki ilişkinin incelenmesi. *Milli Eğitim Dergisi, 50* (230), 815-834.

Ateş, B., Sağar, M.E. (2021). Üniversite öğrencilerinde bilişsel esneklik ve duygu düzenleme becerilerinin internet bağımlılığı üzerindeki yordayıcı rolü. *Uşak Üniversitesi Eğitim Araştırmaları Dergisi*, *7*(1), 87-102.

Bacanlı, H., Erdoğan, F. (2003). Matson Çocuklarda Sosyal Becerileri Değerlendirme Ölçeğinin (MESSY) Türkçeye uyarlanması. *Kuram ve Uygulamada Eğitim Bilimleri, 3*(2), 351-379.

Bayraktar, F. (2001). *İnternet Kullanımının Ergen Gelişimindeki Rolü*. Yüksek Lisans Tezi, İzmir: Ege Üniversitesi Sosyal Bilimler Enstitüsü. Psikoloji Anabilim Dalı.

Blair, B. L., Perry, N. B., O'Brien, M., Calkins, S. D., Keane, S. P., & Shanahan, L. (2015). Identifying developmental cascades among differentiated dimensions of social competence and emotion regulation. *Developmental Psychology*, *51*(8), 1062.

Bozkurt Yükçü, Ş., Demircioğlu, H. (2017). Okul öncesi dönem çocuklarının duygu düzenleme becerilerinin çeşitli değişkenler açısından incelenmesi. *Mehmet Akif Ersoy Üniversitesi Eğitim Fakültesi Dergisi*. *0* (44), 442-466.

Brajša-Žganec, A., Merkaš, M., Šakić Velić, M. (2019). The relations of parental supervision, parental school involvement, and child's social competence with school achievement in primary school. *Psychology in the Schools. 56*(8), 1246-1258.

Budak, C.F. (2017). *İnternet bağımlılığının yordayıcıları olarak sosyotropi-otonomi kişilik özellikleri ve duygu düzenleme güçlüğü*. Yüksek Lisans Tezi, İstanbul: Işık Üniversitesi, Klinik Psikoloji Bölümü.

Bütüner, R., Bütüner, N., Bütüner, M. (2022). Ergenlerde sosyal medya bağımlılığı konusunda son beş yılda yapılmış çalışmaların incelenmesi. *Journal of Information Systems and Management Research. 4*(2), 17-34.

Chen, L., Yan, Z., Tang, W., Yang, F., Xie, X., & He, J. (2016). Mobile phone addiction levels and negative emotions among chinese young adults: The mediating role of interpersonal problems. *Computers in Human Behavior*, *55*, 856-866.

Chen, Y.A., Fan, T. (2024). Adolescents' mental health, problematic internet use, and their parents' rules on internet use: A latent profile analysis. *Computers in Human Behavior*. *156,* 108232.

Çeliker, V.B., Aşiroğlu, S. (2020). Ortaokul öğrencilerinin internet bağımlılıkları ile sosyal beceri düzeyleri arasındaki ilişkinin incelenmesi. *Yeditepe Üniversitesi Eğitim Fakültesi Dergisi*. *9*(11), 43-57.

Çepikkurt, F., Fındık, M. (2017). Takım sporu yapanlarla bireysel spor yapanların sosyal beceri düzeylerinin karşılaştırılması. *International Journal of Sport Exercise and Training Sciences*. *3*(2), 55–63.

Çetin, A., Alkan, E.Ö. (2017). 12-14 yaş arası ergenlerin sosyal beceri düzeyi ile ebeveynlerine bağlanma güvenliği arasındaki ilişkinin incelenmesi. *Kalem Eğitim ve İnsan Bilimleri Dergisi*. 7(2), 419-440.

Çolak, Ç.H. (2020). *Lise öğrencilerinde sosyal medya bağımlılığı ve duygu düzenleme becerilerinin kişilik özelliklerine ve çeşitli değişkenlere göre incelenmesi*. Yüksek Lisans Tezi, Sakarya: Sakarya Üniversitesi, Eğitim Bilimleri Enstitüsü.

Duman, N., Yılmaz, S.A., Umunç, Ş., İmre, Y. (2019). Üniversite öğrencilerinde duygudurum düzenleme ve öfke. *IBAD Sosyal Bilimler Dergisi. 4*(1), 1-9.

Duran Okur, H. ve Özkul, M. (2015). Modern iletişimin arayüzü: Sanal iletişim sosyal paylaşım sitelerinin toplumsal ilişki kurma biçimlerine etkisi (Facebook Örneği). *Süleyman Demirel Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*. *21,* 213-246.

Dursun, A. (2022). Ergenlerin problemli internet kullanımı ve psikolojik ihtiyaçlarına ilişkin görüşleri. *Kalem Eğitim ve İnsan Bilimleri Dergisi. 12*(2), 495-520.

Duy, B., Yıldız, M.A., (2014). Ergenler İçin Duygu Düzenleme Ölçeği'nin Türkçe'ye uyarlanması. *Turkish Psychological Counseling and Guidance Journal*, 5(41), 23-35.

Eker, H., Tas, I. (2022). The relationship between game addiction, emotional autonomy and emotion regulation in adolescents: A multiple mediation model. *International Journal of Technology in Education and Science*. *6*(4), 569-584.

Eraslan Çapan, B., Sarıçalı, M. (2016). Problemli facebook kullanımında sosyal ve duygusallığın yalnız rolü. *İnönü Üniversitesi Eğitim Fakültesi Dergisi. 17* (3), 53-66.

Ercengiz, M., Şar, A.H. (2017). Ergenlerde internet bağımlılığının yordayıcı olarak duygu düzenlemedeki rolü. *Sakarya University Journal of Education*, *7*(1), 183-194.

Faraji, H., Tezcan, A. E. (2021). *Ergen.* Ankara: Eğiten Kitap

Fumero, A., Marrero, R.J., Voltes, D., Penate, W. (2018). Personal and social factors involved in internet addiction among adolescents: A meta-analysis. *Computers in Human Behavior.* 86, 387-400.

Günlü, A., Ceyhan, A.A. (2017). Ergenlerde internet ve problemli internet kullanım davranışının incelenmesi. *Addicta: The Turkish Journal on Addictions. 4*(1), 75–117.

Hassan, T., Alam, M.M., Wahab, A., Hawlader, M.D. (2020). Prevalence and associated factors of internet addiction among young adults in Bangladesh. *Journal of the Egyptian Public Health Association. 95*, 1-8.

Haşimoğlu, A., Aslandoğan, A. (2018). Lise öğrencilerinin ergenlik dönemi sorunları ve duygu düzenleme stratejileri arasındaki ilişkinin incelenmesi. *Academic Review of Humanities and Social Sciences, 1*(2), 71-83.

Hendekci, A. (2019). Sosyodemografik açıdan farklı özellikteki adölesanların duygu düzenleme durumlarının belirlenmesi. *Anadolu Hemşirelik ve Sağlık Bilimleri Dergisi*, *22*(4), 261-268.

Hirschi, T. (1969). *Causes of Delinquency*. Berkeley: University of California PreSD

Ho, S.S., Lwin, M., Lee, E. (2017). Till logout do us part? Comparison of factors predicting excessivesocial network sites use and addiction between singaporean adolescents and adults. *Computers in Human Behavior. 75*, 632-642.

Hughes, E.K., Gullone, E. (2011). Emotion regulation moderates relationships between body image concerns and psychological symptomatology. *Body Image. 8*, 224-231.

Karabulut, N., Aktas, B. (2019). Investigation of levels of ınternet addiction in junior high school students and the effects of the addiction on their health. *Internation Journal Of Caring Sciences*. *12*(2), 860-868.

Karaer, Y., Akdemir, D. (2019). İnternet bağımlılığı olan ergenlerde ebeveynlik stilleri, algılanan sosyal destek ve duygu düzenleme. *Kapsamlı Psikiyatri*, *92*, 22–27.

Kato, T.A., Kanba, S., Teo, A.R. (2018). Hikikomori: Experience in Japan and International Relevance. *World Psychiatry*, *17*, 105-106

Kaya, M. D., & Çok, F. (2021). Genç kadınlarda kendini susturma. *Psikiyatride Güncel Yaklaşımlar*, *13*(3), 428-440.

Khatcherian, E., Zullino, D., De Leo, D., Achab, S. (2012). Feelings of loneliness: Understanding the risk of suicidal ideation in adolescents with internet addiction. a theoretical model to answer to a systematic literature review, without results. *International Journal of Environmental Research and Public Health*. *19* (4), 2012.

Kılınç, M., Önder, A. (2019). Ortaokul öğrencilerinin erken dönem uyumsuz şemaları ile duygu düzenleme yöntemleri arasındaki ilişkinin çeşitli değişkenler açısından incelenmesi. *OPUS International Journal of Society Researches*. *14*(20), 96-132.

Kim, K. M., Kim, H., Choi, J. W., Kim, S. Y., ve Kim, J. W. (2020). What types of ınternet services make adolescents addicted? correlates of problematic ınternet Use. *Neuropsychiatric Disease And Treatment*, *16*, 1031–1041.

Kline, R. B. (2011). Principles and practice of structural equation modeling. London: Guilford publications.

Koo, H.J., Kwon, J.H. (2014). Risk and protective factors of internet addiction: A meta-analysis of empirical studies in Korea. *Yonsei Medical Journal. 55*(6), 1691–1711.

Laghi, F., Lonigro, A., Pallini, S., Baiocco, R. (2018). Emotion regulation and empathy: Which relation with social conduct*?. The Journal of Genetic Psychology. 179*(2), 62-70.

Liang, L., Zhu, M., Dai, J., Li, M., & Zheng, Y. (2021). The mediating roles of emotional regulation on negative emotion and internet addiction among chinese adolescents from a development perspective. *Frontiers in Psychiatry*, *12*, 608317.

Liu, W., Mirza, F., Narayanan, A., Souligna, S. (2020). Is it possible to cure internet addiction with the internet?. Aı & Socıety; *35*, 245-255.

Machado, M.R., Bruck, I., Cat, M.N.L, Soares, M.C, Silva, A.F., (2018), Internet addiction and its correlation with behavioral problems and functional ımpairments – A Cross Sectional Study, *Jornal Brasileiro de Psiquiatria,* 67, 1, 34-38.

Maniaci, G., Picone, F., van Holst, R. J., Bolloni, C., Scardina, S., & Cannizzaro, C. (2017). Alterations İn the emotional regulation process in gambling addiction: The role of anger and alexithymia. *Journal of Gambling Studies*, *33*, 633-647.

Martins, M. V., Formiga, A., Santos, C., Sousa, D., Resende, C., Campos, R., Nogueira, N., Carvalho, P., & Ferreira, S. (2020). Adolescent internet addiction–role of parental control and adolescent behaviours. *International Journal of Pediatrics and Adolescent Medicine*, *7*(3), 116-120.

Matson, J.L., Rotatori, A.F., Helsel, W.J. (1983). Development of a rating scale to measure social skills in children: The Matson Evaluation Of Social Skills With Youngsters (MESSY). *Behaviour Research and Therapy*, *21*(4), 335-340.

Meyer, S., Raikes, H. A., Virmani, E. A., Waters, S., & Thompson, R. A. (2014). Parent emotion representations and the socialization of emotion regulation in the family. *International Journal of Behavioral Development*, *38*(2), 164-173.

Moçoşoğlu, B., Yorulmaz, B. (2023). İlkokul 4. sınıf öğrencilerinin dijital oyun bağımlılık düzeyleri ile ders çalışma alışkanlıkları arasındaki ilişki: Ümraniye örneği. *Anadolu Journal of Educational Sciences International. 13*(2), 459-492.

Moilanen, K.L., Lynn Manuel, M. (2019). Helicopter parenting and adjustment outcomes in young adulthood: a consideration of the mediating roles of mastery and self-regulation. *Journal of Child and Family Studies*. *28*, 2145-2158.

Ohahanyohe Odije, I., Enyi, J. (2023). Influence of emotional ıntelligence, attitude and perception on substance abuse among secondary school students in makurdi local government area of benue state, nigeria, http://dx.doi.org/10.2139/ssrn.4317604

Özaltın, E., Söyler, H.Ç., Günay, E. (2022). Ortaokul öğrencilerinde akıllı telefon bağımlılığı, algılanan anne baba tutumu, sosyal dışlanma ve akademik özyeterlilik. *Sosyal, Beşeri ve İdari Bilimler Dergisi. 5*(8), 1093-1109.

Pala Özçelik, F.M. (2020). 6-10 Yaş aralığındaki çocukların sosyal beceri gelişim düzeyleri ile anne baba tutumları arasındaki ilişkinin incelenmesi. *Ulakbilge Sosyal Bilimler Dergisi*. *46*, 365-379.

Pan, Y.C., Chiu, Y.C., Lin, Y.H. (2020). Systematic Review And Meta-Analysis Of Epidemiology Of İnternet Addiction. *Neuroscience & Biobehavioral Reviews*. *118*, 612-622.

Phillips, K.F.V., Power, M.J. (2007). A new self-report measure of emotion regulation in adolescents: The Regulation Of Emotions Questionnaire. *Clinical Psychology & Psychotherapy: An International Journal of Theory & Practice. 14*(2), 145-156.

Quaglieri, A., Biondi, S., Roma, P., Varchetta, M., Fraschetti, A., Burrai, J., ... & Mari, E. (2021). From emotional (dys) regulation to internet addiction: a mediation model of problematic social media use among ıtalian young adults. *Journal of Clinical Medicine*, *11*(1), 188.

Romero-López, M., Pichardo, C., De Hoces, I., García-Berbén, T. (2021). Problematic internet use among university students and its relationship with social skills. *Brain Sciences. 11*(10), 1301.

Sabatier, C., Cervantes, D., Torres, M., De los Rios, O., & Sañudo, J. (2017). Emotion regulation in children and adolescents: Concepts, processes and influences. *Psicología desde el Caribe*, 75-90.

Sağar, M.E., Özçelik, T. (2022). Ergenlerde duygu düzenleme ve yaşam doyumunun sosyal medya bağımlılığı üzerindeki yordayıcı Rolü. *Kırıkkale Üniversitesi Sosyal Bilimler Dergisi*, *12* (2), 493-511.

Salek Ebrahimi, L., Ahmadi, G., Masjedi Arani, A., Mousavi, S.E. (2019). Predicting internet addiction in medical students by general self-efficacy, difficulty in emotion regulation and resilience. *Journal of Practice in Clinical Psychology*. 7(3), 167-174.

She, R., han Mo, P. K., Li, J., Liu, X., Jiang, H., Chen, Y., Ma, L., & fai Lau, J. T. (2023). The double-edged sword effect of social networking use intensity on problematic social networking use among college students: The role of social skills and social anxiety. *Computers İn Human Behavior,* 140, 107555. https://doi.org/10.1016/j.chb.2022.107555

Silvers, J.A. (2022). Adolescence As A pivotal period for emotion regulation development. *Curr Opin Psychol*. *44*, 258–263.

Şenel, A.F., Çakmak Tolan, Ö. (2022). Ergenlerde internet bağımlılığının algılanan ebeveyn kabul/ reddi, duygu düzenleme ve psikolojik belirtiler bağlamında incelenmesi, *International Journal Of Eurasia Social Sciences. 13*(47), 1-22.

Theurel, A., Gentaz, E. (2018). The Regulation of emotions in adolescents: age differences and emotion-specific patterns. *Plos One, 13*(6), e0195501.

Ural, A. Kılıç, İ. (2013). *Bilimsel Araştırma Süreci ve SPSS ile Veri Analizi.* 4. Baskı. Ankara: Detay Yayıncılık.

Ünlü, Ç., Çeviker, A. (2022). Examination Of The social skills levels of students participating in recreative activities. *International Journal on Social and Education Sciences. 4*(4), 529-540.

Villani, D., Carissoli, C., Triberti, S., Marchetti, A., Gilli, G., & Riva, G. (2018). Videogames for emotion regulation: A systematic review. *Games for Health Journal*, *7*(2), 85-99.

Wartberg, L., Kriston, L., Bröning, S., Kegel, K., & Thomasius, R. (2017). Adolescent problematic ınternet use: ıs a parental rating suitable to estimate prevalence and identify familial correlates?. *Computers in Human Behavior*, *67*, 233-239.

Weiss, N. H., Kiefer, R., Goncharenko, S., Raudales, A. M., Forkus, S. R., Schick, M. R., & Contractor, A. A. (2022). Emotion regulation and substance use: A meta-analysis. *Drug and Alcohol Dependence*, *230*, 109131.

Xu, Z., Turel, O., Yuan, Y. (2012). Online Game addiction among adolescents: Motivation and prevention factors. *Eur J Inf Syst. 21*, 321-340.

Yalcin, H., Güvener, E., Kasal, D. (2020). Relationship between gifted children's internet gaming addiction and quality of life. *European Journal of Special Education Research*. *6*(4), 35-54.

Yavuzarslan Gök, A. (2017). *Ergenlerde problemli internet kullanımı, kişilik özellikleri ve sosyal beceri arasındaki ilişkinin incelenmesi*. Yüksek Lisans Tezi, İstanbul: Marmara Üniversitesi Eğitim Bilimleri Enstitüsü.

Young, K. S. (1998). Internet Addiction: The emergence of a new clinical disorder. *CyberPsychology & Behavior*. *1*(3),237-244.

Young, K. S. (2004). Internet Addiction: A New clinical phenomenon and ıts consequences. *American Behavioral Scientist, 48*(4), 402-415.

Yu, JJ., Kim, H., Hay, I. (2013). Understanding adolescents' problematic internet use from a social/cognitive and addiction research framework. *Computers in Human Behavior*. *29*(6), 2682–2689.

Yüksel R., Kocairi C., Arslantaş H., Söylemez, B. (2020). Ergenlerde internet bağımlılığını etkileyen faktörler. *Balkan Sosyal Bilimler Dergisi*. *9*(1), 19-28.

Zimmermann, P., Iwanski, A. (2014). Emotion regulation from early adolescence to emerging adulthood and middle adulthood: Age differences, gender differences, and emotion-specific developmental variations. *International Journal of Behavioral Development*. *38*(2), 182–194.

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The Effects of Smartphone Addiction and Cyber Victimisation on Suicidal Ideation of Adolescents in Turkey

Mehmet Barış HORZUM[1], Tuncay AYAS[2]

Abstract: This study aims to examine whether gender, smartphone addiction, and the level of cyberbullying victimisation are significant predictors of suicidal ideations. The correlational model was used in the study. The participants of the study consisted of 211 high school students. The convenience sampling method was used in the selection of the participants. Among the participants, 137 are female, 74 are male, 157 are ninth, and 54 are tenth-grade high school students. Three scales, namely Smartphone Addiction, Cyber Bullying / Victimisation, and Suicidal Ideations, were used to collect data in the study. In addition to these scales, students' gender and grade information were asked. For the statistical analysis, correlation and linear hierarchical regressions were utilized to evaluate how well variables predicted suicide ideation. The study revealed that grade and gender were not significant predictors of suicidal ideations. Still, smartphone addiction and cyberbullying victimisation were significant predictors of suicidal ideations.

Key words: Gender, smartphone addiction, cyberbullying victimisation, suicidal ideations, high school student.

[1] Prof. Dr., Sakarya Üniversitesi, Eğitim Fakültesi, Öğretim Teknolojileri ABD, *mhorzum@sakarya.edu.tr*
[2] Prof. Dr., Sakarya Üniversitesi, Eğitim Fakültesi, RPD ABD tayas@sakarya.edu.tr

Introduction

Technological devices renew their features every day and become more widely used for both communication and information—these devices oversimplified people's connection to the touch of the fingers on the screen. In recent years, they have facilitated people's lives parallel with the developments in information and communication technologies.

Smartphones, one of these technological devices, are widely used by students in the school environment for various reasons, such as talking, texting, listening to music, playing games, or spending time using many other phone features while they are at school.

Smartphone addiction can be defined as being addicted to smartphones and other applications related to smartphones (Won-jun, 2013). Smartphone addiction is also expressed as the inability of users to control their smartphone usage (Jeong & Lee, 2015). Internet and smartphone addictions differ from substance and alcohol addiction in that they are behavioural addictions. Although behavioural addictions have serious negative consequences on the individual, they can be defined as behaviours that individuals exhibit to eliminate stress and pain and enjoy (Bolle, 2014).

It is possible to say that smartphones provide many benefits that will facilitate people's lives due to many applications, easy access to the Internet, and some adverse effects resulting from misuse. Excessive use of smartphones causes negative social, psychological and physiological consequences for individuals (Choi, Lee, & Ha, 2012). Insensible smartphone use also causes problems such as loss of nerves, desperate efforts to connect, excessive time spent on smartphones, psychological disorders and disruptions in daily work (Ko, Lee, & Kim, 2012). Smartphone addiction also leads to the formation of addicted individuals who live by creating a virtual identity away from reality, isolated from society, having difficulty communicating face-to-face, and expressing themselves with the virtual identity they create (Polat, 2017). The excessive use of the smartphone is known to cause extreme insomnia, fatigue, and stress; and affect individuals psychologically (Gross, 2014).

When recent studies related to smartphones are reviewed, it is seen that smartphone addiction is closely related to psychosocial characteristics such as stress, depression, anxiety, loneliness and shyness (Bian & Leung, 2015; Chiu, 2014; Long et al., 2016; Wang et al., 2015). These negative psychological symptoms are directly related to suicide and increase suicide ideation (Katsumata, Matsumoto, Kitani, & Takeshima, 2008; Takeuchi & Nakao, 2013). There is a significant relationship between smartphone use and suicide attempt (Kim, Min, Ahn, An, & Lee, 2019).

As a result of the increase in smartphone use, individuals may experience conflicts with their families and friends. As a result of these conflicts, the individual may be rejected from his environment. Individuals rejected by their environment are observed to have a higher suicidal tendency (Richards, 1999). Depressive symptoms and suicide ideation of those with good social relationships are lower than those with poor social relations (Murray, McKenzie, Murray, & Richelieu, 2016). Twenge et al. (2018), in their study with adolescents in the United States, stated that adolescents spend more time on smartphones and electronic devices and spend less time on off-screen activities. The study revealed an increase in depression and suicide rates among adolescents who spend much of their time online.

Along with the negative consequences mentioned above due to excessive use of smartphones, it is seen that, due to using this technology to harm others, cyberbullying incidents have started to occur frequently, and individuals are negatively affected by such events. A study conducted by the Seoul Metropolitan Government (Lee, 2014) with the participation of 4,998 students aged between 10 and 17 who have smartphone addiction found that students with a high tendency to be addicted to smartphones also had a higher tendency to become cyberbullies and cyber-victims. While only 3% of the participants in the study stated that they were cyberbullying their peers, it was determined that 4% were cyberbullying victims. This rate increased to 14.7% among those in the risk group for smartphone addiction. It was determined that 43.7% of people who were determined to bully their peers were involved in bullying by chance, 23.5% stated that they were cyberbullying to threaten someone, 18% indicated that they were bullying for revenge and 12% because of distress. Based on this study, it can be said that smartphone addiction has negative consequences such

as cyberbullying or cyberbullying victimisation. Gross (2014) stated that excessive use of smartphones causes many adverse effects as well as cyberbullying.

Another critical point that is not explicitly stated in this definition but expressed in many other definitions is that the individual exposed to cyberbullying is relatively lacking the power of self-defense. While this situation says a physical power imbalance in traditional bullying, it describes a power imbalance in using technological tools more developed in cyberbullying. Those exposed to negative behaviours by others in virtual environments are referred to as cyberbullying victims.

Arıcak, Tanrıkulu, and Kınay (2012) state that cyberbullying victimisation exposes individuals or groups to harmful behaviours through information and communication technologies. These behaviours lead to physical or psychological victimisation in individuals. Many psychological symptoms are observed in individuals exposed to cyberbullying due to this event's effect. In their study, Kowalski and Limber (2007) found that victims' self-esteem decreased, and their social anxiety scores were higher than cyberbullies. Ubertini (2010) found that participants determined to be cyberbullying victims had significantly high levels of depression and low self-confidence levels. Nishina, Juvonen, and Witkow (2005) stated that depression, anxiety, loneliness, paranoid thoughts could be seen in people exposed to cyberbullying, and their academic performance will be negatively affected by such events. Ayas (2014) found that depression, anxiety, and gender are significant predictors of cyberbullying. Adolescents exposed to cyberbullying are either excluded by peer groups or cut off from their peers because they feel embarrassed and anxious. In this process, they experience despair as they cannot find anyone they can trust around them (Anderson, 2010).

Sourander et al. (2010) found that individuals exposed to cyberbullying experience emotional problems and problems with their peers. In addition to these problems, they also suffer from headaches and stomach aches and have problems sleeping with the event they have experienced. Along with the adverse psychological, physical, and academic effects of cyberbullying on individuals, it also increases alcohol and drug use (Ybarra, Espelage, & Mitcheel, 2007).

In his study on the current literature on the effects of cyberbullying on adolescents' health, Nixon (2014) determined that cyberbullying is a threat to the health and well-being of adolescents. The study found that the increasing depressive mood, anxiety and loneliness of cyberbullying victims lead adolescents to suicidal behaviour. Suicide is the leading cause of death among children and adolescents worldwide and is a significant public health problem that requires attention and intervention (Shain, 2007). Individuals exposed to cyberbullying may turn to suicide to get rid of the adverse effects of these events. Feinberg and Robey (2008) stated that cyberbullying could lead to externalized violence and suicide. Hinduja and Patchin (2010) found that both cyberbullying and traditional bullying are significantly associated with increased suicidal ideation in individuals. It is stated that those who are exposed to cyberbullying incidents think of suicide and attempt suicide more than those exposed to traditional bullying. Hinduja and Patchin (2019) stated that being exposed to cyberbullying at school is a risk factor for suicidal ideation and suicide attempts.

Depression symptoms, suicide attempts and self-mutilative behaviours are observed in students exposed to cyberbullying (Schneider, O'Donnell, Stueve, & Coulter, 2012). Price and Dalgleish (2010) found that 78% of cyberbullying victims stated that they lost their self-confidence, 35% were academically negatively affected, school attendance of 28% decreased, and 19% had family problems. Also, in this study, 2% of the participants stated that they harmed themselves, and 3% indicated that they thought of committing suicide. According to Kowalski and Witte (2006), cyberbullying victims were asked how they felt after being cyberbullied. One of the participants stated that one of his friends was in depression and often had thought of committing suicide.

In their study conducted with 4,693 high school students, Litwiller and Brausch (2013) found that physical bullying and cyberbullying are associated with substance use, violent behaviour, unsafe sexual behaviour and suicide ideation. This study determined that cyberbullying affects physical bullying on suicide ideation, substance use, violent behaviour, and unsafe sexual relationship. Schenk and Fremouw (2012) stated that cyberbullying victims are more likely to think about committing suicide, planning for it, and attempting suicide than people who have never been cyber victims. Schenk, Fremouw, and Keelan (2013) conducted a

study with 79 students (60 students cyberbully, 19 students cyber bully-victim and 79 control group) found that cyberbullies and cyber bully-victims were significantly more likely to attempt suicide than those in the control group. It has been determined that cyberbullying victims are more likely to tell someone that they consider committing suicide than cyberbullies and control group members.

Kelly et al. (2015) conducted a study with 1588 students. It was determined that suicide ideation among the participants was more common among the bullies than among those who were not involved in bullying. Generally, the highest rate of suicide ideation was seen among the bully-victims. This study determined that frequent suicide ideation was more common among the bully-victim and victim students than those who were not involved in bullying. Ferrara et al. (2014) determined that suicide was more common among boys (58.2%) than girls (41.8%) in a total of 55 suicide cases in which victims were younger than 18 years in Italy between 2011 and 2013.

While no significant difference was found in some studies examining the relationship between suicide and gender (Langhinrichsen-Rohling, Arata, Bowers, O'Brien, & Morgan, 2004; Thomas, Crawford, Meltzer, & Lewis, 2002), some studies indicated that women have more suicide ideation than men do (Molina & Duarte, 2006; Park, Schepp, Jang & Koo, 2006; Whetstone, Morrissey, & Cummings, 2007). On the other hand, some studies indicate that men have more suicide ideation than women (Batıgün, 2005; Kumar, Mohan, Ranjith and Chandrasekaran, 2006). Kaltiala-Heino et al. (1999) conducted a study with 16,410 students aged 14-16 in Finland and found that 2% of girls and 2% of boys had severe suicide ideation. It has been determined that suicide ideations are common among both victims and bullies and that depression occurs equally among bullies and victims. While it has been determined that severe suicide ideation among girls is often associated with being a victim or bullying others, it has been determined that serious suicide thought among boys is related to being a bully.

When studies on smartphone addiction and cyberbullying are examined, it is found that studies are showing that both situations affect individuals negatively. As a result of literature review of studies conducted in Turkey, it can be said that there is no study researching the relationship between smartphone addiction, cyberbullying and suicide

ideations. Even in studies outside Turkey, no research is conducted to research the relationship between suicide ideation, cyber victim and smartphone addiction. Therefore, to fill this literature gap, the present study investigates the relationship between smartphone addiction, cyberbullying and suicidal ideations.

Methods

Model

Correlational research design, one of the quantitative research methods, was used in the study. Correlational research design is used in studies that examine the relationship between multiple variables measured at once without any intervention in a descriptive or predictive way. In the current study, the correlational model was used because the study aims to examine in a predictive way the relationship between the variables of smartphone addiction, being a cyber victim, and suicide ideation data of which was collected at once without any intervention.

Participants

The participants of the research are 211 high school students from a city in Northwest Turkey. The convenience sampling method was used in the selection of the participants. 137 (64.9%) of the research participants are female, and 74 (35.1%) are male. Of the participants, 157 (74.4%) were ninth-grade, and 54 (25.6%) were tenth-grade students.

Instrument

Three scales were used to collect data in the study. These are Smartphone Addiction Scale, Cyber Victim Scale, and Suicidal Ideation Scale. A form has been added to these scales to collect demographic information. In this form, information of the students related to their gender and grade were asked. Detailed information about the scales used in the study is presented below.

Smartphone Addiction Scale (SAS)

The original Smartphone Addiction Scale was developed by Şar, Ayas and Horzum (2015). The scale was rearranged by taking the pilot application and expert opinion. Subsequently, factor analysis, construct validity and reliability studies were conducted. In order to develop SAS and at the same time to perform factor analysis in the first application, the scale was applied to 234 high school students. The second application was re-applied to a different group of 228 high school students to make the confirmatory factor analysis.

Convergent and discriminant validity were applied to measure the construct validity of the scale. As a result of the research, it was concluded that it is a scale with proven validity and reliability. The scale consists of 30 items, and factor loading values of items were measured between 0.444-0.813. These results show that the scale can explain the quality measured by variance adequately.

Cyberbully / Cyberbullying Victim Scale (CB/CV-S)

In the research, the "CyberBully / Cyberbullying Victim Scale" developed by Ayas and Horzum (2010) was used to determine cyberbullies. CB/CV-S consists of two parallel scales, one of which is the "Cyberbully Scale (CB-S)" and the other one is the "Cyberbullying Victim Scale(CV-S)". The scale consists of the same items asking the same question from two different points of view. Students are expected to mark how often they use the words and do the actions in CB-S and how often they are exposed to these words and actions in CV-S. In this study, of the whole scale, only Cyberbullying Victim Scale part was used. Ayas and Horzum (2010) developed the scale and determined that this part of CB/CV-S consists of 19 items. Evidence for factorial validity was obtained with exploratory and confirmatory factor analysis. The total internal consistency coefficient of CV-S with 19 items was found to be .81. Participants are expected to answer 19 items by marking each item on a 5-point Likert scale between “never” and “always”. The scale can be scored between 17 and 85 points in the CV-S part of CB/CV-S, and a high score indicates a high level of cyberbullying victimisation.

Suicidal Ideation Scale

The study employed the "Suicidal Ideation Scale" developed by Levine et al. (1989) to determine suicidal ideation. The scale contains 17 questions for parameters such as; uncontrollable anger, desire to harm oneself or others, hopelessness, thought and intention of death, decreased self-esteem, guilt, slow thinking, slow speech, depression, and despair, and lastly, an increased risk of the suicide attempt. The questionnaire aims to determine the severity of suicidal ideation. The patient himself answers the questionnaire. The total score ranges from 0 to 17, and a high score means the patient has significant suicidal ideation. Dilbaz et al. (1995) examined the validity and reliability of the scale. They found that the Suicidal

Ideation Scale was significantly associated with Hamilton Depression Scale, Hopelessness Scale, and Suicidal Intention Scale.

Procedure

The research was carried out by ensuring the anonymous participation of volunteer participants after obtaining permission from the Provincial Directorate of National Education. The questionnaires were filled in by participants as paper and pen tests without the participant's name and number. For the statistical analyses, correlational and linear hierarchical regressions were utilized to evaluate how well the variables predicted suicidal ideations. These analyses were performed via SPSS 18.

Results

Within Participants' smartphone addiction (SA) scores ranged from 30 to 130 ($\overline{X}$ ± SD; 63.33±24.96), cyberbullying victimisation (CV) scores ranged from 19 to 95 ($\overline{X}$ ± SD; 23.38 ± 10.05), suicidal ideations (SI) scores ranged from 0 to 16 ($\overline{X}$ ± SD; 4.50 ± 3.89). It was found that the participants' smartphone addiction was higher than the midpoint. However, the suicidal ideations and the cyberbullying victimisation level were lower than the midpoint. Correlation scores were used to assess bivariate relationships with suicidal ideation, smartphone addiction and cyber victimisation. The findings are presented in Table 1:

Table 1. Correlations between suicidal ideations and the participants' smartphone addiction, and cyberbullying victimization.

	SA	CV
SI	.393**	.191**
SA		.170**

** p< .010.

Significant positive relationships have been found between suicidal ideation scores and smartphone addiction, and cyber victimisation. These findings mean that smartphone addiction and cyberbullying victimisation are positively related to suicidal ideations.

The hierarchical regression model contained gender and grade as predictors of suicidal ideations in the first block. In the first block, F change was not significant: F change (2,208) = 1.328, $p > .05$, R^2 change = 0.013. In the second block, smartphone addiction was added as a predictor. The second block's F change was significant and R^2 change increased compared to the previous block: F change (1,207) = 36.360, $p < .001$, R^2 change = 0.148. Third, cyberbullying victimisation was added as a predictor of suicidal ideations scores. The third and final block's F change was significant and R^2 change increased compared to the previous block: F change (1,206) = 4.467, $p < .05$, R^2 change = 0.018. The results of the hierarchical regression model are presented in Table 2:

Table 2. Hierarchical regression analyses of suicidal ideations.

Predictor	B	S. E.	Beta	t	p
Block 1 ($R^2 = 0.013$; $\Delta R^2 = 0.003$; F(2,208) = 1.328; p. > 0.05)					
Gender	-.948	.586	-.117	-1.617	.107
Grade	.180	.641	.020	.281	.779
Block 2 ($R^2 = 0.160$; $\Delta R^2 = 0.148$; F(1,207) = 36.360; p. < 0.001)					
Gender	-.416	.549	-.051	-.758	.449
Grade	-.384	.600	-.043	-.640	.523
Smartphone Addiction	**.061**	**.010**	**.392**	**6.030**	**.000**
Block 3 ($R^2 = 0.122$; $\Delta R^2 = 0.115$; F(8,952) = 16.577; p. < 0.001)					
Gender	-.613	.552	-.075	-1.110	.268
Smartphone Addiction	**.057**	**.010**	**.364**	**5.534**	**.000**
Cyberbullying victimization	**.053**	**.025**	**.138**	**2.114**	**.036**

Predictors were entered in three steps. First, gender and grade were input, in step 2 smart phone addiction was added, in step 3 cyberbullying victimization was added. Gender: 0 = female, 1 = male.

When Table 2 was examined, it was found that grade and gender, taken as primary variables in the study, were not significant predictors of suicidal ideation. It was found that smartphone addiction, which is included in the second block of the study, is a significant predictor of suicidal ideation. The suicidal ideation of smartphone-addicted individuals is higher than those who are not addicted to the smartphone. The smartphone addiction variable explains 14.8% of suicidal ideation. In the third block of the study, cyberbullying victimisation scores were included in the study. It was found that cyberbullying victimisation scores were also a significant predictor of suicidal ideation. It was found that individuals who are victims of cyberbullying have higher suicidal thoughts than non-victims. However, the cyberbullying victimisation scores can only explain 11.5% of suicidal ideation on their own.

Discussion, Conclusion and Suggestions

In The study aims to examine the relationship between gender, smartphone addiction and cyberbullying, and suicidal ideations. As a result of the research conducted for this purpose, it was revealed that students with high smartphone addiction also have high suicidal ideations. This finding is consistent with the studies in the literature (Kim, Min, Ahn, An, & Lee, 2019; Twenge et al., 2018) that smartphone addiction is associated with suicidal tendency, attempt and ideations. In addition, the findings of studies showing that smartphone addiction is closely related to psychosocial characteristics such as stress, depression, anxiety, loneliness, and shyness (Bian & Leung, 2015; Chiu, 2014; Long et al., 2016; Wang et al., 2015) show that these negative psychological symptoms are directly related to suicide and they increase suicidal ideations (Katsumata, Matsumoto, Kitani, & Takeshima, 2008; Takeuchi & Nakao, 2013).

The studies reveal that individuals using smartphones for a long time encounter psychological problems (Gross, 2014; Ko, Lee, & Kim, 2012). Kwon & Paek (2016) found that depression, low self-esteem, negative stress, insufficient social support are among the problems triggering suicide for adolescents and adults. Considering that smartphones are associated with psychological problems, and psychological problems have an essential effect

on leading individuals to suicide, this may be accepted as influential in forming a positive relationship between smartphone addiction and suicidal ideations. There is a positive relationship between overuse of the Internet and psychological problems and suicidal ideations (Messias, Castro, Saini, Usman, and Peeples 2011). Considering that smartphones are generally used for internet access, the relationship between smartphone addiction and suicidal ideations may also be related to this situation.

In addition, the increase in the use of smartphones may reduce the time that young people spend with their social environment and families. Young people start to experience problems resulting from their weak relationships with their social environments and even have mental problems because of not being able to share these problems they encounter in different fields with their families or people in their social environment. This result may be an essential factor in the formation of suicidal ideations or suicide attempts. Pompili et al. (2012) stated that individuals with interpersonal problems, poor social support, living alone, and in despair are more prone to suicide. A study conducted with adolescents in Korea reveals that conflicts within the family have increased with smartphone addiction (Kim, Min, Min, Lee, & Yoo 2018). Another study shows that the use of smartphones negatively affects friendships (Bae, 2015).

Prolonged use of smartphones may cause social relationships problems, and the negative mood resulting from this may affect individuals to develop suicidal ideations. Effective strategies may be needed to solve the mental problems that may arise due to the increased use of smartphones by young people. These findings reveal the necessity of taking preventive and corrective measures for smartphone addiction, especially in adolescents. In this respect, it may be suggested to develop training, social media posts, public announcements and other materials that will raise awareness about the use of smartphones to prevent thoughts, tendencies and even attempts of suicide and other psychological, biological, cognitive, social and academic negative results of smartphone addiction,

The World Health Organization stated that the excessive use of the Internet and electronic devices, including smartphones, can cause physical harm and psychosocial problems. Cyberbullying incidents are among the solid reasons for these problems (WHO,

2014). Within the scope of the study, a significant relationship was found between smartphone addiction and cyberbullying victimisation. This finding is consistent with the research on smartphone addiction conducted by the Seoul Metropolitan Government in Seoul (Lee, 2014) and the study conducted by Gross (2014), which state that smartphone-addicted students are also more prone to becoming both cyberbullies and cyberbullying victims.

Cyberbullying is an action performed using information and communication technologies. Usually, cyberbullying acts are considered as all kinds of activities that other people will not like on social media on the Internet. Because smartphones are one of the tools that allow individuals to perform these actions in the shortest time possible nowadays, cyberbullying cases are thought to increase due to the increasing use of smartphones. Nam (2019) reveals a positive relationship between the time spent on smartphones and cyberbullying. The same study found that the probability of being exposed to cyberbullying increases with increased time spent on the smartphone.

These findings prove that smartphone addiction also affects cyberbullying and cyber victimisation. The results also show that the relationship between smartphone addiction and cyberbullying/victimisation has turned into a swirl, and both negative situations continue to increase by triggering each other. When the findings are evaluated from this point of view, they reveal the necessity of applying preventive actions to prevent cyberbullying / victimisation and smartphone addiction starting from an early age. As a preventive action, it may be suggested that primary care physicians and public health specialists carry out informative studies for both families and school administrators, teachers and students.

The study also found that as cyberbullying victimisation increases, it also increases suicidal ideation. This finding is consistent with studies showing that there is a relationship between cyberbullying victimisation and suicide in the literature (Feinberg & Robey, 2008; Ferrara et al., 2014; Hinduja & Patchin, 2010, 2019; Kelly et al.,2015; Kowalski & Witte, 2006; Litwiller & Brausch, 2013; Price & Dalgleish, 2010; Schenk & Fremouw, 2012; Schenk, Fremouw & Keelan, 2013; Schneider, O'Donnell, Stueve & Coulter, 2012; Van Geel, Vedder & Tanilon, 2013). These studies found that when compared to face-to-face bullying cases, suicidal ideations and the tendency to commit suicide increased more in cyberbullying cases. In

addition, studies show that cyberbullying victims have higher suicidal tendencies and ideations compared to cyberbullies in terms of suicidal tendencies and ideations. In this respect, cyberbullying victims are more prominent in suicidal ideations and tendencies, supporting the research findings.

Exposure to cyberbullying can cause many negative results for individuals. Individuals exposed to cyberbullying may experience feelings of fear, anger, sadness, and helplessness (Hoff & Mitchell, 2009). However, it is observed that individuals exposed to cyberbullying have more suicidal attempts and ideations than individuals who are not exposed to cyberbullying (Hinduja & Patchin, 2010). Schneider, O'Donnell, Stueve, & Coulter, 2012 revealed a strong relationship between cyberbullying and suicidal ideations in their study on cyberbullying and suicidal ideations. Medrano, Lopez Rosales, & Gámez-Guadix, 2018 found that the rate of those exposed to cyberbullying was 34%, and 12.2% of them stated that they had suicidal thoughts in the last two weeks.

Cyberbullying victims experience emotional and social problems such as low self-esteem, instability, hopelessness, stress, and depression. Accordingly, suicidal ideations of these individuals increase, and as a result, suicidal acts increase (Hinduja & Patchin, 2010). As De Man, Leduc, and Labreche - Gauthier (1992) stated, cyberbullying victims also experience similar psychological symptoms. Thus it can be thought that this situation may affect cyberbullying victims' suicidal ideations, considering that psychological symptoms such as depression, low self-esteem, harmful stress, and insufficient social support trigger suicide.

Studies in literature state that cyberbullying victims live with the thought that they cannot get rid of their psychological situation, which may increase suicidal ideations. All these findings reveal the need to focus on cyberbullying victimisation and smartphone addiction and to take precautions. Thus, it may be recommended that non-governmental organizations fighting addiction should be established. Experts for technology addiction and cyberbullying should be employed in institutions such as ANATEM (Alcohol and Substance Addiction Treatment Centre). More studies should be conducted on technology addiction. In addition, since cyberbullying and cyberbullying victimisation require interdisciplinary work, research centers on these subjects should be established in universities and carry out more studies

focusing on these problems. Furthermore, the Ministry of National Education should carry out events to educate and raise awareness for administrators, teachers, students and families on these issues. In this process, the Ministry of National Education should cooperate with other stakeholders such as the Ministry of Health and universities.

The current study found that gender is not a significant predictor of suicidal ideation. It is seen that there are different findings in the literature regarding gender variable. Some studies found no difference between genders (Kjoller & Helweg-Larsen, 2000; Thomas, Crawford, Meltzer, & Lewis, 2002), while some studies show that women have more suicidal ideations than men (Molina & Duarte, 2006; Park, Schepp, Jang and Koo, 2006). Other studies found that men have more suicidal thoughts than women (Batıgün, 2005; Harriss, Hawton, & Zahl, 2005; Kumar, Mohan, Ranjith, & Chandrasekaran, 2006). Different findings have many reasons, which can be explained with the fact that the ages of the participants in each study are different, different variables such as suicidal ideation, suicidal tendency and suicidal attempt are measured in the studies, the various tools are used for measurement, and gender and perceptions can differ in different cultures and societies. The current study found no difference between genders. This finding may be explained by the fact that participants were from a similar social environment, and thus there was no difference in suicidal thoughts in terms of gender. Considering all these findings and differing views regarding gender, more detailed studies are required and recommended.

In this study, it is seen that the grade of the participants is not a significant predictor of suicidal ideations. Elevli (2012) found no significant difference between grade regarding suicide probability in adolescents. Considering the grade in which this study was conducted, since the participants are from similar age groups and similar living conditions, it can be thought that this situation was influential in the absence of a significant difference in suicidal ideations in terms of grade. However, considering that there are not many studies on grade and age, it may be recommended to carry out studies aiming at these variables in the future.

Limitation

The study has some limitations. One of these limitations is the number and level of participants. A limited number of participants from only one province is included in the

research. In this respect, it is recommended to conduct more comprehensive studies at a national level for more generalizable results. In addition, students from two grades at the high school level were included in the study. This sampling characteristic limits the representation of both high school level and adolescents. In this respect, it can be suggested to conduct studies that will focus on adolescent age groups and participants from all grades of high school in future studies. The current study employed a questionnaire to gather data. Future studies can use smart bands, watches or phones to gather data for studying the relationship between smartphone addiction and cyberbullying. This study was conducted before the CoVid-19 outbreak. In this respect, considering that cyberbullying may also increase in parallel with the increase in smartphone addiction during the epidemic period, and considering that psychological negativities may occur due to the disease, it is recommended to conduct similar studies during and after the epidemic and to present comparative results.

Studies in literature state that cyberbullying victims live with the thought that they cannot get rid of their psychological situation, which may increase suicidal ideations. All these findings reveal the need to focus on cyberbullying victimisation and smartphone addiction and to take precautions. Thus, it may be recommended that non-governmental organizations fighting addiction should be established. Experts for technology addiction and cyberbullying should be employed in institutions such as ANATEM (Alcohol and Substance Addiction Treatment Centre). More studies should be conducted on technology addiction. In addition, since cyberbullying and cyberbullying victimisation require interdisciplinary work, research centers on these subjects should be established in universities and carry out more studies focusing on these problems. Furthermore, the Ministry of National Education should carry out events to educate and raise awareness for administrators, teachers, students and families on these issues. In this process, the Ministry of National Education should cooperate with other stakeholders such as the Ministry of Health and universities.

References

Anderson, W. L. (2010). Cyber stalking (cyberbullying)-proof and punishment. *Insights to a Changing World Journal, 4*(3), 18-23.

Arıcak, O. T., Kınay, H., & Tanrıkulu, T. (2012). The first psychometric findings of the cyberbullying scale. *Journal of Hasan Ali Yücel Education Faculty, 9*(1), 101-114.

Ayas, T. & Horzum, M. B. (2010). Cyberbully/victim scale development study. *Academic Overview: International Refereed E-Journal of Social Sciences, 19*, 1-17

Ayas, T. (2014). Prediction cyber bullying with respect to depression, anxiety and gender variables. *Online Journal of Technology Addiction and Cyberbullying*, *1*(1), 1-17.

Bae, S. M. (2015). The relationships between perceived parenting style, learning motivation, friendship satisfaction, and the addictive use of smartphones with elementary school students of South Korea: Using multivariate latent growth modeling. *School Psychology International*, *36*(5), 513-531.

Batıgün, A. D. (2005). Suicide probability: A review in terms of reasons for living, hopelessness and loneliness. *Turkish Journal of Psychiatry*, *16*(1), 29-39.

Bian, M., & Leung, L. (2015). Linking loneliness, shyness, smartphone addiction symptoms, and patterns of smartphone use to social capital. *Social Science Computer Review*, *33*(1), 61-79.

Bolle, C. L. (2014). *Who is a smartphone addict? The impact of personal factors and type of usage on smartphone addiction in a Dutch population* [Unpublished master dissertation]. University of Twente.

Chiu, S. I. (2014). The relationship between life stress and smartphone addiction on Taiwanese university student: A mediation model of learning self-efficacy and social self-efficacy. *Computers in Human Behavior*, *34*, 49-57.

Choi, H. S., Lee, H. K., & Ha, J. C. (2012). The influence of smartphone addiction on mental health, campus life and personal relations-Focusing on K university students. *Journal of the Korean Data and Information Science Society*, *23*(5), 1005-1015.

De Man, A. F., Leduc, C. P., & Labreche-Gauthier, L. (1992). Correlates of suicide ideation in French-Canadian adults and adolescents: A comparison. *Journal of Clinical Psychology*, *48*(6), 811-816.

Bayam, G., Dilbaz, N., Bitlis, V., Polat, H., & Tuzer, T. (1995). Validity and reliability of suicidal ideation scale. *Crisis*, *3*, 253-255.

Elevli, S. (2012). *Predictors of suicide probability in adolescents: Loneliness, anger expression, guilt and shame* [Unpublished master dissertation]. Muğla Sıtkı Koçman University.

Feinberg, T. & Robey, N. (2008). Cyberbullying. *Principal Leadership, 9*(1), 10-14

Ferrara, P., Ianniello, F., Cutrona, C., Quintarelli, F., Vena, F., Del Volgo, V.,& Chiaretti, A. (2014). A focus on recent cases of suicides among Italian children and adolescents and a review of literature. *Italian Journal of Pediatrics*, *40*(1), 1-5.

Gross, E. F. (2004). Adolescent Internet use: What we expect, what teens report. *Journal of Applied Developmental Psychology*, *25*(6), 633-649.

Harriss, L., Hawton, K., & Zahl, D. (2005). Value of measuring suicidal intent in the assessment of people attending hospital following self-poisoning or self-injury. *The British Journal of Psychiatry*, *186*(1), 60-66.

Hinduja, S., & Patchin, J. W. (2010). Bullying, cyberbullying, and suicide. *Archives of Suicide Research, 14*(3), 206-221.

Hinduja, S., & Patchin, J. W. (2019). Connecting adolescent suicide to the severity of bullying and cyberbullying. *Journal of School Violence*, *18*(3), 333-346.

Hoff, D. L., & Mitchell, S. N. (2009). Cyberbullying: Causes, effects, and remedies. *Journal of Educational Administration*, *47*(5), 652-665.

Jeong, H. & Lee, Y. (2015). Smartphone addiction and empathy among nursing students. *Advanced Science and Technology Letters, 88*(47), 224-228.

Kaltiala-Heino, R., Rimpelä, M., Marttunen, M., Rimpelä, A., & Rantanen, P. (1999). Bullying, depression, and suicidal ideation in Finnish adolescents: School survey. *BMJ, 319*(7206), 348-351.

Katsumata, Y., Matsumoto, T., Kitani, M., & Takeshima, T. (2008). Electronic media use and suicidal ideation in Japanese adolescents. *Psychiatry and Clinical Neurosciences, 62*(6), 744-746.

Kelly, E. V., Newton, N. C., Stapinski, L. A., Slade, T., Barrett, E. L., Conrod, P. J., & Teesson, M. (2015). Suicidality, internalising problems and externalising problems among adolescent bullies, victims and bully-victims. *Preventive Medicine, 73*, 100–105

Kim, H. J., Min, J. Y., Min, K. B., Lee, T. J., & Yoo, S. (2018). Relationship among family environment, self-control, friendship quality, and adolescents' smartphone addiction in South Korea: Findings from nationwide data. *PloS one*, *13*(2), Article e0190896.

Kim, M. H., Min, S., Ahn, J. S., An, C., & Lee, J. (2019). Association between high adolescent smartphone use and academic impairment, conflicts with family members or friends, and suicide attempts. *PloS one*, *14*(7), Article e0219831.

Kjoler, M., & Helweg-Larsen, M. (2000). Suicidal ideation and suicide attempts among adult Danes. *Scandinavian Journal of Public Health*, *28*(1), 54-61.

Ko, K. S., Lee, M. J., & Kim, Y. E. (2012). A research on addictive use of smartphone by university students. *Journal of Digital Contents Society*, *13*(4), 501-516.

Kowalski, R. M., & Witte, J. (2006). Youth internet survey. *Unpublished manuscript, Clemson University*. Retrieved April 9, 2021, from http://www.camss.clemson.edu/

Kowalski, R. M.,& Limber, S. P. (2007). Electronic bullying among middle school students. *Journal of Adolescent Health*, *41*(6), S22-S30.

Kumar, C. S., Mohan, R., Ranjith, G., & Chandrasekaran, R. (2006). Gender differences in medically serious suicide attempts: A study from South India. *Psychiatry Research*, *144*(1), 79-86.

Kwon, Y. S., & Paek, K. S. (2016). The influence of smartphone addiction on depression and communication competence among college students. *Indian Journal of Science and Technology*, *9*(41), 1-8.

Langhinrichsen-Rohling, J., Arata, C., Bowers, D., O'Brien, N., & Morgan, A. (2004). Suicidal behavior, negative affect, gender, and self-reported delinquency in college students. *Suicide and Life-Threatening Behavior*, *34*(3), 255-266.

Levine, S., Ancill, R. U., & Roberts, A. P. (1989). Assessment of suicide risk by computer-delivered self-rating questionnaire: preliminary findings. *Acta Psychiatrica Scandinavica, 80*(3), 216-220.

Litwiller, B. J., & Brausch, A. M. (2013). Cyber bullying and physical bullying in adolescent suicide: the role of violent behavior and substance use. *Journal of Youth and Adolescence*, *42*(5), 675-684.

Long, J., Liu, T. Q., Liao, Y. H., Qi, C., He, H. Y., Chen, S. B., & Billieux, J. (2016). Prevalence and correlates of problematic smartphone use in a large random sample of Chinese undergraduates. *BMC Psychiatry*, *16*(1), 408.

Medrano, J. L. J., Lopez Rosales, F., & Gámez-Guadix, M. (2018). Assessing the links of sexting, cybervictimisation, depression, and suicidal ideation among university students. *Archives of Suicide Research, 22*(1), 153-164.

Messias, E., Castro, J., Saini, A., Usman, M., & Peeples, D. (2011). Sadness, suicide, and their association with video game and internet overuse among teens: results from the youth risk behavior survey 2007 and 2009. *Suicide and Life-Threatening Behavior*, *41*(3), 307-315.

Molina, J. A., & Duarte, R. (2006). Risk determinants of suicide attempts among adolescents. *American Journal of Economics and Sociology*, *65*(2), 407-434.

Murray, A. L., McKenzie, K., Murray, K. R., & Richelieu, M. (2016). Do close supportive relationships moderate the effect of depressive symptoms on suicidal ideation? *British Journal of Guidance & Counselling*, *44*(1), 99-107.

Nam, Y. (2019). *The cause of college students' cyberbullying in Korea: Effect of prior victimisation* [Unpublished doctoral dissertation]. Michigan State University.

Nishina, A., Juvonen, J., & Witkow, M. R. (2005). Sticks and stones may break my bones, but names will make me feel sick: The psychosocial, somatic, and scholastic consequences of peer harassment. *Journal of Clinical Child and Adolescent Psychology*, *34*(1), 37-48.

Nixon, C. L. (2014). Current perspectives: the impact of cyberbullying on adolescent health. *Adolescent Health, Medicine and Therapeutics*, 5, 143–158.

Park, H. S., Schepp, K. G., Jang, E. H., & Koo, H. Y. (2006). Predictors of suicidal ideation among high school students by gender in South Korea. *Journal of School Health*, *76*(5), 181-188.

Polat, R. (2017). Dijital hastalik olarak nomofobi. *Yeni Medya Elektronik Dergisi*, *1*(2), 164-172.

Pompili, M., Serafini, G., Innamorati, M., Biondi, M., Siracusano, A., Di Giannantonio, M., ... & Möller-Leimkühler, A. M. (2012). Substance abuse and suicide risk among adolescents. *European Archives of Psychiatry and Clinical Neuroscience*, *262*(6), 469-485.

Price, M., & Dalgleish, J. (2010). Cyberbullying: Experiences, impacts and coping strategies as described by Australian young people. *Youth Studies Australia*, *29*(2), 51-59.

Richards, B. M. (1999). Suicide and internalised relationships: A study from the perspective of psychotherapists working with suicidal patients. *British Journal of Guidance & Counselling*, *27*(1), 85-98.

Şar, A. H., Ayas, T., & Horzum, M. B. (2015). Developing the smartphone addiction scale and its validity and reliability study. *Online Journal of Technology Addiction & Cyberbullying*, *2*(1), 1-17.

Schenk, A. M., Fremouw, W. J., & Keelan, C. M. (2013). Characteristics of college cyberbullies. *Computers in Human Behavior*, *29*(6), 2320-2327.

Schenk, A. M.,& Fremouw, W. J. (2012). Prevalence, psychological impact, and coping of cyberbully victims among college students. *Journal of School Violence, 11*(1), 21-37.

Schneider, S. K., O'donnell, L., Stueve, A., & Coulter, R. W. (2012). Cyberbullying, school bullying, and psychological distress: A regional census of high school students. *American Journal of Public Health*, *102*(1), 171-177.

Lee, M.-J., (2014, April 14). Smartphones worsen cyberbullying. The wall street journal. http://blogs.wsj.com/korearealtime/2014/04/15/smartphones-a-boon-for- cyberbullying-2/.

Shain, B. N. (2007). Suicide and suicide attempts in adolescents. *Pediatrics*, *120*(3), 669-76.

Sourander, A., Klomek, A. B., Ikonen, M., Lindroos, J., Luntamo, T., Koskelainen, M., & Helenius, H. (2010). Psychosocial risk factors associated with cyberbullying among adolescents: A population-based study. *Archives of General Psychiatry*, *67*(7), 720-728.

Takeuchi, T., & Nakao, M. (2013). The relationship between suicidal ideation and symptoms of depression in Japanese workers: A cross-sectional study. *BMJ Open, 3*(11), Article e003643. Doi: 10.1136/bmjopen-2013-003643.

Thomas, H. V., Crawford, M., Meltzer, H., & Lewis, G. (2002). Thinking life is not worth living. *Social Psychiatry and Psychiatric Epidemiology*, *37*(8), 351-356.

Twenge, J. M., Joiner, T. E., Rogers, M. L., & Martin, G. N. (2018). Increases in depressive symptoms, suicide-related outcomes, and suicide rates among US adolescents after 2010 and links to increased new media screen time. *Clinical Psychological Science*, *6*(1), 3-17.

Ubertini, M. (2010). *Cyberbullying may reduce adolescent's well-being: Can life satisfaction and social support protect them*? [Unpublished doctoral dissertation]. Hofstra University.

Van Geel, M., Vedder, P., & Tanilon, J. (2014). A meta-analysis on the relation between peer victimisation, cyberbullying and suicide in children and adolescents. *JAMA Pediatrics*, *168*(5), 435-442.

Wang, J. L., Wang, H. Z., Gaskin, J., & Wang, L. H. (2015). The role of stress and motivation in problematic smartphone use among college students. *Computers in Human Behavior*, *53*, 181-188.

Whetstone, L. M., Morrissey, S. L., & Cummings, D. M. (2007). Children at risk: the association between perceived weight status and suicidal thoughts and attempts in middle school youth. *Journal of School Health*, *77*(2), 59-66.

Won-jun, L. (2013). An exploratory study on addictive use of smartphone: Developing SAUS (Smartphone Addictive Use Scale). *Journal of Convergence Information Technology*, *8*(12), 403.

World Health Organization. (2015). *Public health implications of excessive use of the internet, computers, smartphones and similar electronic devices: Meeting report*, Main Meeting Hall, Foundation for Promotion of Cancer Research, National Cancer Research Centre, Tokyo, Japan, 27-29 August 2014. World Health Organization.

Ybarra, M. L., Espelage, D. L., & Mitchell, K. J. (2007). The co-occurrence of Internet harassment and unwanted sexual solicitation victimisation and perpetration: Associations with psychosocial indicators. *Journal of Adolescent Health*, *41*(6), 31-41.