

**RESEARCH
ARTICLE**

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Received: 29.11.2020
 Acceptance: 19.09.2021
 DOI: 10.18521/ktd.833276

Scientific meetings where the
 study was presented as a
 paper:
 -3. International Congress of
 Health Sciences, 29
 November -1 December 2018,
 Ankara.
 -12th European Public Health
 Conference, 20-23 November
 2019, Marseille.

Konuralp Medical Journal
 e-ISSN1309-3878
 konuralptipdergi@duzce.edu.tr
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 www.konuralptipdergi.duzce.edu.tr

Evaluation of Cyber Victimization and Self-Esteem Level in High School Students

ABSTRACT

Objective: The aim of this study is to determine the prevalence of cyber victimization among high school students, to examine some possibly related variables and to evaluate the relation with level of self-esteem in Sivrihisar district of Eskişehir.

Methods: This is a cross-sectional study conducted between May-June 2018. The study group consisted of 712 students. The questionnaire used in the study includes The Revised Cyber Bullying Inventory-II and Rosenberg Self-Esteem Scale. Chi-square test, Mann Whitney U test and Logistic Regression Analysis were performed to analyze the data. It was considered significant if $p \leq 0.05$.

Results: The 60.1% of the students were female, and the mean value of ages was 16.3 ± 1.2 in years (ranged 13-20). The prevalence of cyber victimization was 51.3% (n=365). When compared to other groups in same subtitle, the risk of being cyber victim was 1.66 times higher in the 9th and 10th grades (CI: 1.20-2.30), 4.56 times higher in individuals with poor family income (CI: 1.18-17.64), 1.53 times in the middle ones (CI: 1.10-2.16), 3.15 times in individuals with social media accounts (CI: 1.00-9.85), and 2.80 times higher in individuals having problems with anyone on the internet (CI: 1.96-4.02). Rosenberg Self-Esteem Scale scores were higher in cyber victims ($p=0.027$).

Conclusions: It was concluded that cyber victimization is an important problem among high school students in Sivrihisar, and cyber victimization is observed higher in the group with low self-esteem.

Keywords: Cyber Victimization, Self-Esteem, High School Student.

Lise Öğrencilerinde Siber Mağduriyet ve Benlik Saygısı Düzeyinin Değerlendirilmesi

ÖZET

Amaç: Bu çalışmada Eskişehir ili Sivrihisar ilçesinde öğrenim görmekte olan lise öğrencilerinde siber mağduriyet sıklığının belirlenmesi, ilişkili olduğu düşünülen bazı faktörlerin incelenmesi ve benlik saygısı düzeyi ile ilişkisinin değerlendirilmesi amaçlanmıştır.

Gereç ve Yöntem: Çalışma Mayıs-Haziran 2018 tarihleri arasında yapılan kesitsel tipte bir araştırmadır. Çalışma grubu toplam 712 öğrenciden oluştu. Çalışmada kullanılan anket form Yenilenmiş Siber Zorbalık Envanteri-II ve Rosenberg Benlik Saygısı Ölçeği'ni içermektedir. Analizler için Ki-kare testi, Mann Whitney U testi ve lojistik regresyon analizi kullanıldı. İstatistiksel anlamlılık değeri olarak $p \leq 0.05$ kabul edildi.

Bulgular: Öğrencilerin %60.1'i kadındır. Yaşları 13-20 arasında değişmekte olup ortalama 16.3 ± 1.2 'dir. Siber mağduriyet görülme sıklığı %51.3 (n=365) olarak bulundu. Siber mağdur olma riski 11 ve 12. sınıflara göre 9 ve 10. sınıflarda 1.66 kat (GA: 1.20-2.30), aile gelir durumu iyi olanlara göre kötü olanlarda 4.56 kat (GA: 1.18-17.64), orta olanlarda 1.53 kat (GA: 1.10-2.16), sosyal medya hesabı olmayanlara göre olanlarda 3.15 kat (GA: 1.00-9.85), internette herhangi biriyle sorun yaşamayanlara göre yaşayanlarda 2.80 kat (GA: 1.96-4.02) daha fazla saptandı. Siber mağdur olanlarda Rosenberg Benlik Saygısı Ölçeği puanı daha yüksek bulundu ($p=0.027$).

Sonuç: Sivrihisar'da öğrenim görmekte olan lise öğrencileri arasında siber mağduriyetin önemli bir sorun olduğu, benlik saygısı düşük olanlarda siber mağduriyetin daha fazla olduğu görüldü.

Anahtar Kelimeler: Siber Mağduriyet, Benlik Saygısı, Lise Öğrencisi.

INTRODUCTION

With technological improvements, functional developments in technological devices have led to the emergence of new environments and cultures in communication, and smaller size of the devices has increased availability and continuity, making the time spent in these environments prolonged and become an indispensable part of people's life. These emerging virtual platforms have become an important factor shaping people's social life, especially friendships (1-3). There are many negativities brought about by all of these. People face many problems such as cyber fraud in virtual environments, personal information stolen or given to the others, psychological and sexual abuse (4-6).

Damaging behaviors that an individual or group carries out in a repetitive manner towards an individual or group that cannot defend itself are called bullying. Bullying is applied to a person or group with less durable in physical and physiological way and aims to intentionally damage in a continuous period (7-9). Cyberbullying is defined as the malicious and repetitive use of information and communication technologies by an individual or group to harm other individuals (10).

Cyber victimization is the situation in which an individual or group, a private or legal person, is exposed to harmful behaviour in technical or relational manner and is materially or morally harmed by such behavior (8, 11). Individuals may experience technical grievances such as the capture of their personal information and passwords as a result of virtual attacks on e-mail or websites, they may also experience psychological-based grievances such as constant harassment, mockery, spreading a gossip about them in the virtual environment, being exposed to insults, spreading private photos without their consent or threatening with it (5, 8, 12, 13).

It has been reported that the prevalence of cyber victimization among high school students varies between 10-83.8% in various countries (14-20). In Turkey, it is seen that it varies between %7.0-63.3 (6, 10, 13, 21, 22). It was reported that %8.9-72.2 of students in Turkey both make cyberbullying and experience cyber victimization (6, 10, 13).

People who are exposed to cyberbullying may experience some negative outcomes that may lead to closure, withdrawal from society and asocialization, cooling and escaping from school, a decrease in school success, humiliation and revenge, aggressive behavior, a decrease in self-esteem and even suicide (1, 5, 10, 12, 23). Among these concepts, self-esteem is a subjective phenomenon that can be defined as the positive and negative attitudes of the individual towards him/her. Self-esteem has an important place in personality development and it is a whole of perceptions, emotions and thoughts that are important for the individual. The relation of self-esteem level with cyber victimization is one of the issues that arise curiosity. There are studies in the literature that low self-esteem level increases cyber victimization, along with studies that state that cyber victimization

decreases self-esteem level, that is, there is a bi-directional interaction (2, 18, 21).

In this study, it was aimed to determine the prevalence of cyber victimization among high school students studying in Sivrihisar district of Eskişehir, to examine some factors that are thought to be related, and to evaluate relationship with self-esteem level.

MATERIAL AND METHODS

The study is a cross-sectional study of high school students studying in Sivrihisar district of Eskişehir between May-June 2018.

Ethics committee permission required for the study was obtained from Eskişehir Osmangazi University Non-Interventional Clinical Research Ethics Committee with the report dated 24.04.2018 and numbered 25403353-050.99-E.43225. In order to collect data in schools, necessary written permissions were obtained from the provincial and district national education directorates.

Eskişehir is a city located in Western Turkey with high development index. The population of Eskişehir is 860,620, of which 429,078 (49.9%) are male and 431,542 (50.1%) are female. The population of Sivrihisar district, which is 100 km away from the city center, is 20,449 (10,358 (50.6%) male and 10,091 (49.4%) female) (24). There are 7 high schools that provide education in Sivrihisar district, 1089 students study in these high schools in total. It is aimed to reach all the students in this study.

A questionnaire was prepared using the literature in order to collect data (2, 11, 17, 18, 20, 22). The first part of the questionnaire forms some socio-demographic characteristics of students (school, grade, age, gender, family income status, family type, personality type) and some features related to internet use (daily average internet usage time, preferred device in internet access, presence of social media account, internet usage purpose). The second part of the questionnaire consists of the questions of the Revised Cyber Bullying Inventory-II, and the third part consists of the questions of Rosenberg Self Esteem Scale.

In order to collect data, the days and times of the survey were determined by informing the school administrators in advance. It was ensured that the students gathered in their classrooms by going to the schools on the specified days and hours. The students were informed about the subject and purpose of the study. The questionnaire form, which was administered by obtaining verbal consent from those who agreed to participate in the study, was filled in approximately 10-15 minutes by the students under observation. Those who did not agree to participate in the study (n=5), those who did not attend the school on the day and time of study (n=359) and those who did not respond adequately to the questionnaire (n=13) were not included in the study. A total of 712 (65.4%) students constituted the study group.

The Revised Cyber Bullying Inventory-II, which is used to determine cyber victimization, was first developed by Erdur-Baker and Kavşut in 2007

(25). It was revised by Topçu and Erdur-Baker (7). In the scale consisting of 10 items answered in the 4-point Likert type and two parallel answer forms, the cyber bullying situation is evaluated in the "I did it" section, and the cyber victimization situation in the "Made to me" section. Answers are scored as none=1 point, once=2 points, two-three times=3 points, more than three=4 points. The total score that can be obtained from the scale varies between 10-40. It is accepted that the level of cyber victimization increases as the total score obtained from the "Made to me" section increases. In addition, those who has scored a total of 10 points from the scale are considered non-cyber victims, and those who has scored 11 points or more are considered as cyber victims (7).

The Rosenberg Self-Esteem Scale (RSES) was developed by Morris Rosenberg in 1965 (26). Turkish validity and reliability study of the scale was done by Çuhadaroğlu in 1986 (27). In the scale, which consists of 10 proposals of four Likert type, items 1,2,4,6 and 7 are positive; Items 3,5,8,9 and 10 are negative. Answers given for negative items are very correct 4 points, correct 3 points, wrong 2 points, very wrong 1 point; The

answers given for positive items are scored the opposite. The total score that can be obtained from the scale varies between 10-40, and the self-esteem decreases as the score gets Higher (28).

In this study, family income status was evaluated as "good", "medium" and "bad" according to one's own perception. Those who are hasty, disciplined, agile and impatient were considered as "A type personality", and those who were patient, comfortable, calm and emotional were accepted as "type B personality".

The evaluation of the data was done with SPSS (v15) Statistical Package Program in computer. For analysis, Chi-square test, Mann Whitney U test and logistic regression analysis were used. $p \leq 0.05$ was accepted as the statistical significance value.

RESULTS

428 (60.1%) of the study group are female and 284 (39.9%) are male. Their ages vary between 13-20 and on mean 16.3 ± 1.2 years. The prevalence of cyber victimization in the study was 51.3% (n=365). The distribution of those with and without cyber victimization according to some socio-demographic characteristics is given in Table 1.

Table 1. Distribution of those with and without cyber victimization in the study group according to some socio-demographic characteristics

Socio-demographic Characteristics	Cyber Victimization			Statistical Test Value
	No n (%) [*]	Yes n (%) [*]	Total n (%) [†]	χ^2 ; P
School				
Vocational High School	127 (53.4)	111 (46.6)	238 (33.4)	3.948; 0.267
Science High School	105 (44.3)	132 (55.7)	237 (33.3)	
Imam Hatip High School	20 (50.0)	20 (50.0)	40 (5.6)	
Anatolian High School	95 (48.2)	102 (51.8)	197 (27.7)	
Grade				
9-10	189 (44.9)	232 (55.1)	421 (59.1)	6.089; 0.014
11-12	158 (54.3)	133 (45.7)	291 (40.9)	
Age range				
≤15	91 (45.0)	111 (55.0)	202 (28.4)	2.387; 0.303
16-17	178 (48.9)	186 (51.1)	364 (51.1)	
≥18	78 (53.4)	68 (46.6)	146 (20.5)	
Gender				
Female	215 (50.2)	213 (49.8)	428 (60.1)	0.963; 0.326
Male	132 (46.5)	152 (53.5)	284 (39.9)	
Father's educational status				
Primary school and below	105 (47.3)	117 (52.7)	222 (31.2)	0.614; 0.736
Middle school	99 (51.0)	95 (49.0)	194 (27.2)	
High school and above	143 (48.3)	153 (51.7)	296 (41.6)	
Mother's educational status				
Primary school and below	171 (46.2)	199 (53.8)	370 (52.0)	3.325; 0.190
Middle school	95 (48.7)	100 (51.3)	195 (27.4)	
High school and above	81 (55.1)	66 (44.9)	147 (20.6)	
Family income status				
Good	122 (54.5)	102 (45.5)	224 (31.5)	9.248; 0.001
Medium	222 (47.0)	250 (53.0)	472 (66.3)	
Bad [‡]	3 (18.8)	13 (81.2)	16 (2.2)	
Family type				
Nuclear family	279 (50.5)	274 (49.5)	553 (77.7)	3.202; 0.202
Extended family	49 (41.5)	69 (58.5)	118 (16.6)	
Broken family	19 (46.3)	22 (53.7)	41 (5.8)	
Personality type				
A	171 (51.5)	161 (48.5)	332 (46.6)	1.911; 0.167
B	176 (46.3)	204 (53.7)	380 (53.4)	
Last year grade point average				
≤69	100 (43.1)	132 (56.9)	232 (32.6)	5.085; 0.079
70-84	167 (52.8)	149 (47.2)	316 (44.4)	
≥85	80 (48.8)	84 (51.2)	164 (23.0)	
Any history of psychiatric illness diagnosed by a physician				
Yes	33 (51.6)	31 (48.4)	64 (9.0)	0.225; 0.635
No	314 (48.5)	334 (51.5)	648 (91.0)	
Total	347 (48.7)	365 (51.3)	712 (100.0)	

*The value reflects the percentage of row; [†]The value reflects the percentage of column; [‡]The group that makes difference.

583 (81.9%) of the study group stated that they use the internet every day, 422 (59.3%) use the internet 3 hours a day or more. 669 (94.0%) of the students had a device with their own internet access.

The number of students with a social media account was 689 (96.8%). The distribution of those with and without cyber victimization according to some features related to internet usage is given in Table 2.

Table 2. Distribution of students with or without cyber victimization according to some features of internet usage

Some Features About Internet Usage	Cyber Victimization			Statistical Test Value χ^2 ; P
	No n (%) [*]	Yes n (%) [*]	Total n (%) [†]	
Internet usage frequency				
At least once every day [‡]	269 (46.1)	314 (53.9)	583 (81.9)	9.358; 0.009
2-3 times a week [‡]	56 (58.3)	40 (41.7)	96 (13.5)	
2-3 times a month [‡]	22 (66.7)	11 (33.3)	33 (4.6)	
Daily average internet usage time (hours)				
≤1	79 (54.5)	66 (45.5)	145 (20.4)	9.436; 0.009
2-3	141 (53.2)	124 (46.8)	265 (37.2)	
≥4 [‡]	127 (42.1)	175 (57.9)	302 (42.4)	
The presence of her/his own room in her house				
Yes	252 (48.0)	273 (52.0)	525 (73.7)	0.433; 0.510
No	95 (50.8)	92 (49.2)	187 (26.3)	
Having a device with internet access				
No	24 (55.8)	19 (44.2)	43 (6.0)	0.918; 0.338
Yes	323 (48.3)	346 (51.7)	669 (94.0)	
Family's restriction on internet use				
Limited	133 (48.9)	139 (51.1)	272 (38.2)	0.005; 0.946
No limitation	214 (48.6)	226 (51.4)	440 (61.8)	
Having social media account				
No	19 (82.6)	4 (17.4)	23 (3.2)	10.915; 0.001
Yes	328 (47.6)	361 (52.4)	689 (96.8)	
Acceptance of friendship of people they do not know				
Accepting	90 (39.6)	137 (60.4)	227 (31.9)	11.017; 0.001
Not accepting	257 (53.0)	228 (47.0)	485 (68.1)	
Number of friends in social networks compared to real life				
More [‡]	112 (42.3)	153 (57.7)	265 (37.2)	7.487; 0.024
The same	151 (53.7)	130 (46.3)	281 (39.5)	
Less	84 (50.6)	82 (49.4)	166 (23.3)	
Feeling stronger in social networks than in real life				
Positive	86 (42.0)	119 (58.0)	205 (28.8)	5.304; 0.021
Negative	261 (51.5)	246 (48.5)	507 (71.2)	
A history of having problems with anyone on the internet				
Experienced	69 (29.6)	164 (70.4)	233 (32.7)	50.689; 0.001
Not experienced	278 (58.0)	201 (42.0)	479 (67.3)	
Speaking of things on the internet that can't be said in real life				
Speaking	112 (40.7)	163 (59.3)	275 (38.6)	11.502; 0.001
Not speaking	235 (53.8)	202 (46.2)	437 (61.4)	
Sharing a problem that occurred on internet with someone in real life				
No	121 (54.3)	102 (45.7)	223 (31.3)	3.966; 0.046
Yes	226 (46.2)	263 (53.8)	489 (68.7)	
Total	347 (48.7)	365 (51.3)	712 (100.0)	

*The value reflects the percentage of row; [†]The value reflects the percentage of column; [‡]The group that makes difference.

As the electronic devices used in internet access, the students responded by mobile phone with 74.8% (n=641), computer with 14.2% (n=122) and tablet with 11.0% (n=94). 68.7% of the students constituting the study group reported that they shared the problem they experienced with anyone on the internet with others. The people with whom students shared a problem they experienced on the internet were 51.8% (n=341) friends, 37.7% (n=248) parents, 4.2% (n=28) teachers, 3.8% (n=25) school administrators and 2.4% (n=16) others. (Since more than one answer was given, the numbers were evaluated based on the answers given, not the individuals).

The scores that students got from RSES ranged from 10 to 37 and the mean was 20.3±5.2 (median 20.0). The RSES scores of cyber victims ranged from 10 to 37, with a median of 21. The RSES scores of non-cyber victims ranged from 10 to 35, with a median of 20. Those with cyber victims had higher RSES scores so their self-esteem was found to be lower (z=2.213; p=0.027).

It was determined that the aim of the students to use the internet is to enter and chat on social media with 37.3%, and to follow the news with at least %8.0. Students' reasons for using the internet are given in Table 3.

Table 3. Reasons for students to use the internet

Reasons for Using the Internet	n (%)*
Entering and chatting on social media	868 (37.3)
Fun and games	613 (26.4)
Doing homework	352 (15.1)
Doing research on any subject	298 (12.8)
Following the news	187 (8.0)
Other	6 (0.2)
Total	2324 (100.0)

*Since more than one answer was given, the numbers were evaluated based on the answers given, not the individuals.

Logistic regression analysis was performed with the variables found to be significant in univariate analyses. When compared to other groups in same subtitle, the risk of being cyber victim was 1.66 times higher in the 9th and 10th grades (CI: 1.20-2.30), 4.56 times higher in individuals with poor family income (CI: 1.18-17.64), 1.53 times in the middle ones (CI: 1.10-2.16), 3.15 times in individuals with social media accounts (CI: 1.00-9.85), and 2.80 times higher in individuals having problems with anyone on the internet (CI: 1.96-4.02). The results of logistic regression analysis created with variables which are found to be related to cyber victimization are given in Table 4.

Table 4. Logistic regression analysis results based on the variables determined to be associated with cyber victimization

Variables	p	OR	%95 CI
Grade (Reference: 11-12)			
9-10	0.002	1.66	1.20-2.30
Family income status (Reference: Good)			
Medium	0.016	1.53	1.1-2.16
Bad	0.028	4.56	1.18-17.64
Internet usage frequency (Reference: 2-3 times a month)			
2-3 times a week	0.231	0.73	0.44-1.22
At least once a day	0.162	0.54	0.22-1.28
Average internet usage time per day (Reference: ≤1 hour)			
2-3 hours	0.579	0.87	0.54-1.41
≥4 hours	0.825	1.06	0.64-1.74
Social media account presence (Reference: No)			
Yes	0.049	3.15	1.00-9.85
Acceptance of friendship of people they do not know (Reference: Not accepting)			
Accepting	0.393	1.18	0.81-1.72
Number of friends in social networks compared to real life (Reference: Less)			
The same	0.562	0.88	0.59-1.34
More	0.675	0.91	0.58-1.42
Feeling stronger in social networks than real life (Reference: Not feeling so)			
Feeling so	0.232	1.24	0.87-1.78
An experience of having problems with anyone on the internet (Reference: No experience)			
Experienced	0.001	2.80	1.96-4.02
Speaking on the internet what one can't say in real life (Reference: Not speaking)			
Speaking	0.266	1.21	0.86-1.69
Sharing a problem that occurred on internet with someone in real life (Reference: No)			
Yes	0.171	1.27	0.90-1.80
Constant: B=-2.173, p=0.001			

DISCUSSION

In this study, the prevalence of cyber victimization was found to be 51.3%. In some studies conducted in Turkey, it is reported that cyber victimization prevalence among students varies between 7.0-63.3% (6, 10, 13, 21, 22), the prevalence of students who are both cyberbully and cyber victims varies between 8.9-72.2% (6, 10, 13). In some studies conducted in various countries, it is reported that the prevalence of cyber victimization varies between 10-83.8% (14-20), the prevalence of both cyber victims and cyberbullies varies between 6.4-11.2% (18, 19). Cyber bullies easily find themselves victims, as they can hide their personal identity on the internet and quickly reach large audiences in a short time (29). The frequent use of the internet today also makes cyber victimization widespread. This may be one of the important reasons that approximately half of the students are exposed to cyberbullying in our study. Among the reasons for the different results reported in various studies may be presented as: the studies were conducted in different schools, different age groups, with different measurement tools, and the criteria for accepting a person as a cyber victim and the time interval questioned were varied.

In our study, no difference was found between age and prevalence of cyber victimization. There are also researchers reporting similar results (5, 10, 11, 17, 22). In some studies, it is reported that age increase is a risk factor for cyber victimization (21, 30). In a study by Pabian and Vandebosch young adolescents were reported to be more risky in terms of cyber victimization than older adolescents (15). It is the late childhood and adolescence period when the individual is most susceptible to risks within the developmental periods. Negative issues such as spending a lot of time on the internet, exhibiting asocial behavior, and cyber victimization are common in this period (29). Since our study was conducted only in high school students and covers a certain age range, there may be no difference between age and presence of cyber victimization.

In the study group, no difference was found between male and female in terms of the prevalence of cyber victimization. Similar results have been reported in some studies conducted in various countries and Turkey (9-11, 14, 30). Although there are studies reported that the prevalence of cyber victimization is higher in male (6, 8, 22), there are also studies reported to be higher among female (15, 17, 19). The fact that both males and females have access to the internet and have the ability to use them, makes cyberbullies reach everyone without gender discrimination and this may have caused no difference between cyber victimization and gender.

The prevalence of cyber victimization among students studying in 9-10 grades of schools, found higher than those studying in 11-12 grades.

Similar results were reported in the study conducted by Kessel Schneider et al. (20). In the study conducted by Dalmaç Polat and Bayraktar, cyber victimization was reported to be the highest 10th grade, however in the study conducted by Göldağ, it was reported to be the highest in the 11th grade (9, 11). There are also studies reported that there is no difference between grades in terms of prevalence of cyber victimization (6, 8). The situations may be the reason of higher prevalence of cyber bullying in 9th and 10th grades compared to advanced grades; such as increased usage of internet in new generation, the change in circle of friends and social relationships, the switch in concentration of the advanced classes due to exams related to their career.

In our study, it was found that the prevalence of cyber victimization was higher in those with poor family income. While some studies reported that socioeconomic level does not predict cyber victimization and cyber victimization does not differ according to family income status (9-11), in some studies, it was reported that cyber victimization is higher in those with high family income (8, 22). In our study, cyber victimization may have been found more frequent in low family income group because of the economic related factors like sociocultural facilities and educational background.

People can share about themselves through the accounts they create on social media, they can add other people as friends and communicate. People who have never met the person and who is not on the list of friends can also see the posts (29). Those who interact with other people from their social media accounts, share their photos, videos and thoughts are more likely to be cyber victims than those without a social media account. In our study, the presence of social media accounts was found to be one of the risk factors for cyber victimization. Safaria et al. reported that students mostly experienced cyber victimization on social networking sites such as Facebook and Twitter (16). Olenik-Shemesh and Heiman also reported that about a quarter of adolescents experience cyber victimization through social networks (14).

The concept of cyberbullying involves using the internet and technological tools to harm another person, threats, insults, aggression and bullying (5). Those who have problems with anyone on the internet may act like cyberbully with emotions such as anger as a result of their problem and become a cyber victim. As expected in our study, it was found that having problems with anyone on the internet is an important risk factor for cyber victimization.

Risky internet behaviors such as chatting with foreign people and sharing personal information and photos increase cyber victimization (18). Easy access to the internet, spending a lot of

time on the internet and not knowing the safe internet use also increases the chance of engaging in risky behaviors and being a cyber victim (5, 21, 29, 30). In many studies, the increase in internet usage time has been associated with cyber victimization (4, 6, 9, 17, 22). In the univariate analysis conducted in our study, it was found that the prevalence of cyber victimization was higher in those who had higher internet usage and daily average internet usage time, who accepted the friendship of people they did not know, and those who had more friends in social networks than in real life. As a result of the logistic regression analysis, it was seen that these situations, which were found significant in univariate analyzes, lost their significance. In addition, situations such as having a student's own room at home, having a device with internet access, and not limiting the family's use of the internet are factors that may lead to risky internet behavior (8, 29, 30). However, in our study, no relation was found between these factors and the presence of cyber victimization. Similar results have been reported in some studies (10, 11, 29).

The person who is a cyber victim suffers psychologically, various fears develop, mental illnesses such as depression and anxiety and problematic behaviors appear. These problems are reflected on students' school achievement, leading to a low grade point average (23, 29). It has been reported that those with low school success are more cyber victims (11, 17, 23). In our study, no difference was found between those with and without a psychiatric disease in terms of the prevalence of cyber victimization. Similarly, it was observed that there was no relationship between the grade point average of the previous year and the prevalence of cyber victimization. In a study conducted by Özdemir, it was reported that there was no relationship between academic success and cyber victimization, in the study conducted by Peker et al, there was no predictive effect of academic success on cyber victimization (4, 5).

Despite the damage they have exposed, most cyber victims do not share their grievances with feeling of embarrassment and fear of restriction of their internet use (5). Safaria et al, reported that only a quarter of cyber victims, Kessel Schneider et al. one-third shared this situation with others (16, 20). Support from the close environment reduces cyber victimization (5). Cyber victimization will increase in those who do not share their problems with their immediate environment and do not receive support. In the regression analysis conducted in our study, the student's failure to share a problem on the internet with his / her relatives was not found as a risk factor for cyber victimization. The development of cyber victimization skills of the students on their own without the support of another person can be shown as a reason to explain this situation.

The family is the place where the child receives first education, is socialized first, and the foundations are laid in personality development. The characteristics of family may affect the risk of cyber victimization. Children who are raised in unhealthy families with poor family functionality and emotional bonds experience more cyber victimization (29). It is reported that cyber victimization decreases as the relations with the mother and father increase and, increase in the presence of oppressive, authoritarian or irrelevant parental attitude (5, 6, 8). Parental education level and personality type can affect cyber victimization by affecting family relationships. But in our study, no relation was found between the cyber victimization and the parental education level and personality type. In various studies, it has been reported that cyber victimization did not differ according to the education level of parents (10, 11, 17, 22). Dalmaç Polat and Bayraktar reported that cyber victimization scores did not differ according to the behavior of individuals (calm, aggressive, shy, sociable) (11).

One of the serious problems occurring in cyber victims is reported to be a decrease in self-esteem (29). Self-esteem, which results from the positive and negative attitudes himself/herself of the individual, is affected by some environmental factors. The self-esteem of the children, who are valued by their surroundings and feel that they are important, is high, those who are exposed to negative events such as cyberbullying also have low self-esteem. Those with low self-esteem are less self-confident, non-extroverted, shy, and these individuals are reported to be victims of cyberbullies and experience more cyber victimization (21). In our study, it was found that cyber victims had lower self-esteem. In the studies conducted both in Turkey and in the World, the decrease in self-esteem has been associated with an increase in cyber victimization, and cyber victims have been reported to have lower self-esteem similar to our study (2, 18, 21, 23, 30).

The limitations of the study are the inability of generalization of results due to monocenter localization, some absent students (participation was 65.4%), absence of causality due to characteristics of a cross-sectional study. The strengths of the study are that the research topic is a current and new one and reaching all high schools in the research region.

CONCLUSION

As a result, in this study, it was observed that cyber victimization is a significant problem among high school students studying in Sivrihisar, and cyber victimization is higher in those with low self-esteem. In addition, being 9-10 grade students, poor family income, having a social media account and having problems with anyone on the internet were found to be risk factors for cyber victimization. In order to reduce the cyber

victimization of the students, it will be beneficial to provide information studies and trainings about cyber victimization and safe internet use. In addition, it is important to raise awareness of families and teachers, who are supporters and guides of students, about cyber victimization.

Acknowledgment

All authors have contributed scientifically to the article.

The authors report no conflicts of interest.

No financial support was received for the study.

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