Turkish Psychological Counseling and Guidance Journal
Türk Psikolojik Danışma ve Rehberlik Dergisi
Yıldırım et al. (2022)
Vol: 12 **Number**: 67 **Page**: 579-592 **ISSN**: 1302-1370

RESEARCH Open Access

ARAŞTIRMA Açık Erişim

Investigation of University Students' Cyber Victimization Experience in Relation to Psychological Symptoms and Social Media Use

Üniversite Öğrencilerinin Siber Mağduriyet Deneyimlerinin Psikolojik Belirtiler ve Sosyal Medya Kullanımı Açısından İncelenmesi

Taşkın Yıldırım, Dilvin Tan Kurtay, & Sonay Caner-Yıldırım

Authors Information

Taşkın Yıldırım
Prof.Dr., İnönü University, Malatya, Türkiye
taskin.yildirim@inonu.edu.tr

Dilvin Tan - Kurtay
Ms., Abdulkadir Tutaşı İlkokulu, Mardin, Türkiye
dilvintn@gmail.com

Sonay Caner - Yıldırım
Dr., Erzincan Binali Yıldırım University, Erzincan, Türkiye
sonaycaner@gmail.com

ABSTRACT

The purpose of this study is to examine university students' cyber-victimization experience in terms of psychological symptoms and social media use. A cross-sectional and self-reported survey was conducted among a total of 1746 undergraduate students. Data were collected through the Revised Cyber Bullying Inventory-II, Brief Symptom Inventory, and the Media and Technology Usage and Attitudes Scale. Chi-square analysis revealed non-significant gender differences for the cyber-victimization experience. Mann-Whitney U test results showed that psychological symptom scores and social media usage scores of cyber victims are significantly higher than non-victims. Binary logistic regression analysis showed that an increase in general social media usage, social media friendship, online friendship, hostility, and paranoid ideation increases the probability of reporting cyber-victimization. The results were discussed, and suggestions were provided in the light of the literature.

Article Information

Keywords
Cyber-victimization, psychological symptoms, social media usage, hostility, paranoid ideation

Anahtar Kelimeler
Siber mağduriyet, psikolojik semptomlar, sosyal media kullanımı, düşmanlık, paranoid düşünce

Article History
Received: 10.07.2021
Accepted: 22.11.2022

ÖZET

Bu çalışmanın amacı, üniversite öğrencilerinin siber mağduriyet deneyimlerini psikolojik belirtiler ve sosyal medya kullanımı açısından incelemektir. Toplam 1746 lisans öğrencisi ile kesitsel ve öz bildirime dayalı bir anket yapılmıştır. Veriler, Revize Edilmiş Siber Zorbalık Envanteri-II, Kısa Semptom Envanteri ve Medya ve Teknoloji Kullanımı ve Tutumları Ölçeği aracılığıyla toplanmıştır. Ki-kare analiz sonuçlarına göre, siber mağduriyet deneyimi ile ilgili cinsiyetler arasında anlamlı fark ortaya çıkmamıştır. Mann-Whitney U testi sonuçları, siber mağdurların psikolojik belirti puanları ve sosyal medya kullanım puanlarının, mağdur olmayanlara göre önemli ölçüde daha yüksek olduğunu göstermiştir. İkili lojistik regresyon analizi, genel sosyal medya kullanımı, sosyal medya arkadaşlığı, çevrimiçi arkadaşlık, düşmanlık ve paranoid düşüncedeki artışın siber mağduriyeti bildirme olasılığını artırdığını göstermiştir. Sonuçlar tartışılmış ve literatür ışığında önerilerde bulunulmuştur.

Cite this article as: Yıldırım, T., Tan Kurtay, D., & Caner Yıldırım, S. (2022). Investigation of university students' cyber victimization experience in relation to psychological symptoms and social media use. *Turkish Psychological Counseling and Guidance Journal, 12*(67), 579-592. https://doi.org/10.17066/tpdrd.12250824

Ethical Statement: The study was approved by the İnönü University Social Sciences and Humanities Scientific Research Ethics Committee on 07.12.2017. (No: 2017/19-01).

INTRODUCTION

While the use of technology was initially limited to areas such as industry and health, today it is hard to imagine our lives without it. We are seeing the dawn of a new era where shopping, health, transportation, friendships, relationships, and even marriages are being realized through Internet technology. Adapting to this age of technology, which is creating a new world order by removing all borders worldwide, is now a necessity rather than a desire. Especially with the Covid 19 pandemic, a process has developed in which people are leaning toward technology in all areas, from their most basic needs such as food to their academic needs such as education. During this time, many people, especially youth and children, have turned to the readily available, cost-effective, and entertaining digital technologies to manage their stress and anxiety (Dinç, 2020). Besides making our lives easier, Internet technology has also brought some negative aspects. Considering that not every change is an absolute improvement, the negative aspects of Internet technology have given rise to new definitions. One of them is cyberbullying. Belsey (2007) defined cyberbullying as intentional and hostile harm to a group or person by others using information and communication technologies. As with traditional bullying, cyberbullying in the digital environment has a cyberbully who carries out the bullying and the cybervictim who is exposed to this situation. Cyber victimization, according to Arıcak (2011), is the exposure of a person or group, a natural individual, or a legal entity to harmful behaviors via communication technologies on a technical or relational basis. Cyber-victimization has been associated with various psychological outcomes in the literature. A meta-analysis study found a positive association between cyber victimization and stress, anxiety, depression, loneliness, behavioral problems, emotional problems, somatic symptoms, and drug and alcohol use (Kowalski et al. 2014). Schenk, Fremouw, and Keelan (2012) observed significant increases in anxiety, depression, phobic anxiety, and paranoia scores in cyber-victims compared to the control group in their study of college students aged 18-24 in the United States. Arıcak (2009) found that the non-cyberbully/non-victim group had fewer psychological symptoms than the cyberbully/victim group. He also found that interpersonal sensitivity and psychoticism predicted cyber-victimization.

In cyberbullying, bullies may think they are not harming victims. However, people who are subjected to bullying may be severely affected by this event and, as a result, may even end their lives. Although such situations do not always lead to suicide, they can have negative consequences for individuals (Ayas & Horzum, 2014). Jessica Logan, who was 18 years old in the state of Ohio in the United States in 2008, committed suicide after her ex-boyfriend circulated her nude photos at school and shared them on social media accounts. Following this case, the Jessica Logan Act was passed in the state of Ohio in January 2012, which encourages schools to prevent cyberbullying and educate teachers against bullying (Wells, 2012). These and similar cases in the media show that the experience of cyber victimization can have serious consequences for individuals.

Social media has become an essential part of our lives with the improvements in information technologies. Social media offers benefits such as quick access to information, acquiring new knowledge, communicating with friends, keeping in touch with family members and other adults (Lenhart, 2015). However, in addition to these benefits, it is also apparent that intensive and frequent use of social media accounts carries the risk of cyber-victimization (Kowalski & Whittaker, 2015; Mesch, 2009). In a study conducted with 914 university students in the U.S., participants' likelihood of becoming an online victim was found to be positively associated with the number of daily updates, number of social media profiles, and acceptance of strangers accessing their social media profiles (Henson, Reyns, & Fisher, 2011). In

addition, time spent on social media was associated with negative symptoms such as major depression, anxiety, and low subjective well-being (Andreassen et al., 2016; Kross et al., 2013; Lin et al., 2016). Especially with the increased use of the social media (Kemp, 2020), it seems necessary to determine the prevalence of victimization among young people, understand the characteristics of the victim, and show the relationship between social media use and cyber-victimization.

Although it is known that studies on cyberbullying mostly focus on adolescents (Bauman & Baldasare, 2015), several studies show that cyberbullying occurs in all age groups and that university students both engage in and are exposed to cyberbullying (Akada & Kabasakal, 2018). Although the prevalence of cyberbullying among university-aged students appears to be less critical than among high school students, studies have shown that this rate is high, ranging from 10% to 28% (Kowalski et al., 2016). This high rate suggests that cyber victimization experience of university students is a major problem that needs to be addressed. On the other hand, the developmental stage that university students are in has some unique characteristics, unlike other stages. According to Yıldırım (2006), some characteristics of being a university student can cause difficulties for individuals. Young people entering higher education have to move from a protective system such as the family to a broader system in which the protective effect of the family is reduced, and adapt to this new system. In addition, young people are still facing the effects of the problems of adolescence related to identity formation, i.e., a tumultuous period is still underway. In addition, during this time, closer relationships must be formed, emotional bonds must be established, feelings of admiration, acceptance, academic success, and the ability to adapt to competition must be acquired, and the future profession must be questioned. All of these skills require self-confidence. Considering all of this, the characteristics of this period and the responsibilities associated with it may make some young people more vulnerable and targeted for negative experiences. As mentioned earlier, individuals exposed to cyberbullying can be greatly affected by this situation and even end their lives. The responsibility of countries is to remove the obstacles that stand in the way of the bio-psycho-social development of university youth at a dynamic age, who will produce knowledge and technology in the future and raise future generations. This is a requirement of modern education (Yıldırım, 2006). For this reason, it is crucial to study university students' experiences of cyber-victimization, which will support the preparation of prevention and remediation measures in higher education institutions. Reviewing the literature, it appears that the cyberbullying experience in the recent studies is examined in relation to different variables. Unlike other studies, the cyber-victimization experience of university students in the current study is examined in terms of gender, psychological symptoms ("somatization, interpersonal sensitivity, depression, anxiety, hostility, psychoticism, phobic anxiety, paranoid ideation, obsession"), and social media use (general social media use, social media friendship, and online friendship). Given the paucity of studies on cyber-victimization, the purpose of this study is twofold: first, to compare psychological symptoms and frequency of social media use in relation to the experience of cyber-victimization, and second, to determine the extent to which the variables together predict cyber-victimization.

METHOD

Research Model

The descriptive survey model and correlational survey model, which are among the quantitative research models, were utilized (Fraenkel, Wallen, & Hyun, 2012).

Sample

The study sample is comprised of undergraduate students studying at a public university in Türkiye during the spring semester of academic year 2017-2018. Random sampling was used, and a total of 1948 students participated in the study. By eliminating participants with incomplete data, 1746 participants were included in the study. A total of 688 (39.4%) of the university students experienced cyber-victimization, and 1058 (60.6%) of them did not experience cyber-victimization. 418 (23.9%) of the victims were female, and 270 (15.5%) were male. It was determined that 640 (36.7%) of those who did not experience cyber-victimization were female, and 418 (23.9) were male.

The cyber-victimization rates of university students are presented in Table 1.

Table 1. Cyber-victimization Experience Rates of University Students

	Female		Male		Total	
	f	%	*f*	%	*f*	%
Cyber Victim	418	23.9	270	15.5	688	39.4
Non-Cyber Victim	640	36.7	418	23.9	1058	60.6

Data Collection Tools

Revised Cyber Bullying Inventory-II, Short Symptom Inventory, Media and Technology Usage, and Attitudes Scale were used to collect data in the study.

Revised Cyber Bullying Inventory-II (RCBI-II). The first version of the Revised Cyber Bullying Inventory-II was developed by Erdur-Baker (2007). It was updated by Topçu (2014). The inventory consists of 10 items, and the same items are divided into two separate columns as "done to me" and "I did" to measure two dimensions: cyber-victimization and cyberbullying. The inventory has a 4-point Likert scale as "never", "once", "two or three times", and "more than three" (Items are scored between 1 and 4). The highest score that can be taken from the inventory is 40, and the lowest score is 10. It can be said that individuals who score 11 and below from the inventory do not experience cyberbullying / victimization, while individuals who score above 11 points experience cyberbullying / victimization (Topçu, 2014). The Cronbach alpha coefficient for RCBI-II was .69 for the cyber-victimization section and .84 for the cyberbullying section (Topçu, 2014).

Brief Symptom Inventory. The Brief Symptom Inventory (BSI) is a short form that emerged as a result of studies conducted with the 90-item SCL-90-R. The BSI, developed by Deragotis (1992), consists of 9 subscales, three global indices, and 53 items. The items scored between 0 and 4, and the scores correspond to the statements "not at all" and "extremely". The Sum of scores indicates the frequency of the symptoms. The inventory subscales are "somatization, interpersonal sensitivity, depression, anxiety, hostility, psychoticism, phobic anxiety, paranoid ideation, and obsession-compulsion". The scale was adapted to Turkish by Şahin and Durak (1994). The Cronbach alpha coefficients for BSI ranged between .71(somatization) and .85 (depression). A follow-up research study on the reliability and validity of the

scale was conducted by Şahin, Batıgün and Uğurtaş (2002). The results showed that the factor structure was very similar to the factor structure determined in the study of Şahin and Durak (1994) and that the internal consistency values are high (Cronbach's alpha coefficients ranged from .70 (depression) and .88 (somatization)), and the scale is valid. Based on these results, they decided that the scale adapted by Şahin and Durak (1994) was still valid and reliable. According to the researchers' studies, Cronbach's alpha coefficient for the total score is between .93 and .96.

Media and Technology Usage and Attitudes Scale. Media and Technology Usage and Attitudes Scale was used to measure social media use by university students. This scale was developed by Carrier, Cheever, Rokkum, Rosen, and Whaling (2013) and consisted of 68 items. 50 of these items aim to measure media and technology usage levels, while the remaining 18 items aim to determine media and technology use attitudes. The scale was adapted to Turkish by Özgür (2016). In this study, sub-factors of general social media usage, social media friendship, and online friendship were utilized. The general social media usage subscale is a 10-point Likert scale ranging from "never" to "always" and consists of 9 items. Social media friendship and online friendship are 9-point Likert scales ranging from "0" to "751 or more" and each consists of 2 items. In the validity and reliability study conducted by Özgür (2016). Cronbach's alpha coefficient for general social media usage is .82, social media friendship is .87, and online friendship is .85.

Data Collection Process

After approval by the ethics committee, data collection was conducted during lecture hours of students who volunteered to participate in the study, with the permission of the instructor in charge. Prior to enrollment, students who agreed to participate in the study were informed about the research and the process of data collection.

Data Analysis

Research data were analyzed in the SPSS 25 program. Before the analysis, the required values were checked to determine whether the data showed a normal distribution or not, and it was concluded that the data did not show a normal distribution. For this reason, it was decided to use non-parametric tests. Chi-square test, Mann-Whitney U test, and Binary Logistic Regression analysis were used in the study.

RESULTS

According to the results of the Chi-Square Test, there is no significant relationship between gender and cyber-victimization experience (χ 2 (1) = .01, p > .05). The Mann - Whitney U test was used to reveal whether the psychological symptom scores of the university students participating in the study differed according to the cyber-victimization experience variable. Results revealed that those who experienced cyber-victimization (X: .71) reported significantly more somatization than those who did not (X: .57) (U= 291960, p= .00). According to the calculated eta-squared (η2) value (.03), it can be said that 3% of the variance of the somatization score depends on the cyber-victimization experience variable. Those who experienced cyber-victimization (X: 1) reported significantly more interpersonal sensitivity than those who did not (X: .75) (U= 295249, p= .00). According to the calculated eta-squared (η2) value (.03), it can be said that 3% of the variance of interpersonal sensitivity score depends on the cyber-victimization experience variable. Those who experienced cyber-victimization (X: 1.17) reported significantly more depression than those who did not (X: .78) (U= 274296, p= .00). According to the calculated eta-squared

(η2) value (.04), it can be said that 4% of the variance of the depression score depends on the cyber-victimization experience variable. Those who experienced cyber-victimization (X: .83) reported significantly more anxiety than those who did not (X: .67) (U= 290689.50, p= .00). According to the calculated eta-squared (η2) value (.03), it can be said that 3% of the variance of the anxiety score depends on the cyber-victimization experience variable. Those who experienced cyber-victimization (X: 1.20) reported significantly more hostility than those who did not (X: .80) (U= 261743.50, p= .00). According to the calculated eta-squared (η2) value (.06), it can be said that 6% of the variance of the hostility score depends on the cyber-victimization experience variable. Those who experienced cyber-victimization (X: 1) reported significantly more psychoticism than those who did not (X: .60) (U= 280004.50, p= .00). According to the calculated eta-squared (η2) value (.04), it can be said that 4% of the variance of the psychoticism score depends on the cyber-victimization experience variable. Those who experienced cyber-victimization (X: .68) reported significantly more phobic anxiety than those who did not (X: .40) (U= 289889.50, p= .00). According to the calculated eta-squared (η2) value (.03), it can be said that 3% of the variance of phobic anxiety score depends on the cyber-victimization experience variable. Those who experienced cyber-victimization (X: 1.40) reported significantly more paranoid ideation than those who did not (X: 1) (U= 250052.50, p= .00). According to the calculated eta-squared (η2) value (.07), it can be said that 7% of the variance of the paranoid ideation score depends on the cyber-victimization experience variable. Those who experienced cyber-victimization (X: 1.50) reported significantly more obsession-compulsion than those who did not (X: 1.17) (U= 250052.50, p= .00). According to the calculated eta-squared (η2) value (.04), it can be said that 4% of the variance of the obsession-compulsion score depends on the cyber-victimization experience variable (See Table 2).

The Mann - Whitney U test was conducted to reveal whether the scores of university students' social media use sub-dimensions of general social media usage, social media friendship, and online friendship differ according to the cyber-victimization experience variable. According to the results of the test, those who experienced cyber-victimization (X: 5) reported significantly more general social media usage than those who did not (X: 4.33) (U= 295703, p= .00). According to the calculated eta-squared (η2) value (.02), it can be said that 2% of the variance of the general social media usage score depends on the cyber-victimization experience variable. Those who experienced cyber-victimization (X: 4.50) reported significantly more social media friends than those who did not (X: 4) (U= 304211.50, p= .00). According to the calculated eta-squared (η2) value (.02), it can be said that 2% of the variance of the social media friendship score depends on the cyber-victimization experience variable. Those who experienced cyber-victimization (X: 1.50) reported significantly more online friends than those who did not (X: 1) (U= 280765, p= .00). According to the calculated eta-squared (η2) value (.04), it can be said that 4% of the variance of the online friendship score depends on the cyber-victimization experience variable (See Table 2).

Table 2. Analysis of University Students' Psychological Symptom Scores According to the Cyber Victim Experience Variable (Mann - Whitney U Test)

	Cyber Victim (n=688)	**Non-Cyber Victim** (n=1058)			
	X_{rank}	X_{rank}	*U*	*Z*	η^2
Psychological Symptoms					
Somatization	978.14	805.45	291960.00	-7.02*	.03
Interpersonal Sensitivity	973.36	808.56	295249.00	-6.71*	.03
Depression	1003.81	788.76	274296.00	-8.73*	.04
Anxiety	979.99	804.25	290689.50	-7.14*	.03
Hostility	1022.06	776.89	261743.50	-9.96*	.06
Psychoticism	995.52	794.15	280004.50	-8.19*	.04
Phobic Anxiety	981.15	803.50	289889.50	-7.25*	.03
Paranoid Ideation	1039.05	765.84	250052.50	-11.09*	.07
Obsession-Compulsion	992.65	796.02	281976.50	-7.98*	.04
Social Media Use					
General Social Media Usage	972.70	808.99	295703.00	-6.63*	.02
Social Media Friendship	960.33	817.03	304211.50	-5.84*	.02
Online Friendship	994.41	794.87	280765.00	-8.84*	.04

Note. *p<.05; Xrank: Average Rank

The effect of psychological symptoms and social media use on cyber-victimization experience were analyzed by Binary Logistic Regression Analysis. The assumptions regarding the Logistic Regression analysis were provided, and as a result of the Hosmer and Lemeshoow Test, it was determined that the values estimated by the model did not differ statistically from the observed values and the data fit was sufficient (χ 2(8)= 8.25, p>.05).

According to the findings, it was determined that the scores of university students in psychological symptoms and social media use sub-scales were significant predictors in explaining cyber-victimization experience (χ 2(12)= 201.87 NR2= .15 p<.01). The data regarding the general correct classification rate in Logistic Regression Analysis are given in Table 3. The increase in the overall correct classification rate of the model (65.8%) compared to the initial model (60.6%) shows that this model is successful in terms of classification.

Table 3. Model Classification Table

Observed	Estimated		Correct Classification Rate
	Cyber Victims	Non-Cyber Victims	
Cyber Victims	260	428	37.8
Non-Cyber Victims	170	888	83.9
Overall Correct Classification Rate			65.8

Hostility (p <.05), paranoid ideation (p <.05), general social media usage (p <.05), social media friendship (p <.05), and online friendship (p <.05) has significant effects on university students' cyber-victimization experience (See Table 4). A one-unit increase in university students' level of hostility increases the probability of experiencing cyber-victimization by 1.31 times or 31% [(1.31-1) * 100]. Likewise, a one-unit increase in the level of paranoid ideation of university students increases the probability of experiencing cyber-victimization by 1.67 times or 67% [(1.67-1) * 100].

When the variables related to social media use are examined, a one-unit increase in the level of general social media usage of university students increases the probability of experiencing cyber-victimization 1.09 times or 9% [(1.09-1) * 100]. A one-unit increase in the social media friendship level increases the probability of experiencing cyber-victimization by 1.08 times or 8% [(1.08-1) * 100]. One unit increase in

the level of online friendship increases the probability of experiencing cyber-victimization by 1.20 times or 20% [(1.20-1) * 100].

Table 4. Logistic Regression Analysis of University Students' Psychological Symptoms and Social Media Use According to the Cyber-victimization Experience Variable

	LR	*%95 CI*		*p*
		Lower	Upper	
Psychological Symptoms				
Somatization	1.11	.91	1.36	.31
Interpersonal Sensitivity	.98	.82	1.17	.82
Depression	1.06	.87	1.30	.56
Anxiety	.76	.60	.97	.32
Hostility	1.31	1.11	1.54	**.00**
Psychoticism	.97	.77	1.21	.76
Phobic Anxiety	1.06	.84	1.33	.63
Paranoid Ideation	1.67	1.39	2.01	**.00**
Social Media Usage				
General Social Media Usage	1.09	1.03	1.15	**.00**
Social Media Friendship	1.08	1.02	1.14	**.01**
Online Friendship	1.20	1.06	1.35	**.00**

Note. p <.05 LR: Likelihood Ratio CI: Confidence Interval

DISCUSSION

In this study, university students' cyber-victimization experience was examined in terms of gender, psychological symptoms, and social media use. In the study, more than one-third of university students reported that they had experienced cyber-victimization. Considering the literature, the prevalence of cyber-victimization varies among university students. Dilmaç (2009) found the cyber-victimization rate as 55.3%, Fancsher and Randa (2019) found the cyber-victimization rate as 43%, Felipe-Castaño et al. (2019) found the cyber-victimization rate as 77.6%, and Topçu (2014) found the cyber-victimization rate as 25.8%. The reason for these proportional changes may be the different measurement tools used or the differences in samples. The differences between the definitions of cyber-victimization and the basing of cyber-victimization on self-reports can be counted among these reasons (Baldry, Sorrentino, Farrington, & Blaya, 2019).

No significant difference was found between females and males in terms of experiencing cyber-victimization. Consistent with our study, some studies have shown that there is no significant gender difference in cyber-victimization (Felipe-Castaño et al., 2019; Sorrentino, Baldry, Farrington, & Blaya, 2019). Similar to traditional bullying, the fact that the tendency to bullying is related to the balance of power in cyberbullying (Fırat & Ayran, 2016), the bully's ability to see a weaker person as a target of bullying regardless of male or female may be the reason why the cyber-victimization experience does not differ according to gender.

In this study, significantly more psychological symptoms were found in cyber victims than in non-victims. Somatization, interpersonal sensitivity, depression, anxiety, hostility, psychoticism, phobic anxiety, paranoid ideation, and obsession-compulsion scores of the cyber victim group were significantly higher. These findings are consistent with the previous studies (Ybarra and Mitchell, 2004) and recent studies (Laconi et al., 2018; Lin et al., 2020; Spears, Taddeo, Daly, Stretton, & Karklins, 2015). This reveals the relationship of cyber-victimization experience with the psychological symptoms of individuals. Besides,

the use of social media by the cyber victims was found to be significantly higher than the non-victims. This is consistent with other studies demonstrating that cyber-victimization is associated with social media use (Craig et al., 2020; Fansher and Randa, 2019). A success rate of 65.8% was achieved after the classification of the students according to their cyber-victimization status with Binary Logistic Regression Analysis. Considering this ratio, the classification of students according to their experience of cyber-victimization was estimated 5.2% more accurately than the initial model. This proportional difference arising from the inclusion of independent variables in the model is small but important as it can be considered as an indicator of model-data fit.

It was found that the increase in the hostility level of university students increases the probability of experiencing cyber-victimization. Individuals who have been subjected to cyberbullying may have hostile emotions as a result of these behaviors. On the other hand, as a result of the hostile feelings of the victims, provoking, threatening others, or using offensive words may cause bullying behavior (Yang, 2012). Consistent with the current study, there are studies in the literature showing that cyber-victimization is related to hostility (Calpbinici & Tas Arslan, 2019; Ildırım, Çalıcı, & Erdoğan, 2017; Laconi et al., 2018).

Another finding of the study is that the increase in the level of paranoid ideation of university students increases the probability of experiencing cyber-victimization. Paranoia, which is defined as the thought that others are trying to harm us deliberately, can be in the form of mild suspicion and insecurity in individuals, or it can also appear in the form of delusions of persecution (Freeman, 2016). Studies examining the relationship between paranoid ideation and traditional bullying have found that past experience of bullying increases the risk of developing paranoid ideation later in life. Findings of the studies examining the relationship between cyberbullying victimization and paranoid ideation are consistent with the current study (Baldwin, Ayorech, Rijsdijk, Schoeler, & Pingault, 2020; Laconi et al., 2018; Schenk, Fremouw, & Keelan, 2013). While the participants may have developed feelings of insecurity and suspicion and paranoid ideation after being victimized by cyberbullying, paranoid-minded youth can interpret online interactions as hostile and thus report cyber-victimization (Baldwin et al., 2020).

Another finding obtained from the study is that the increase in the use of general social media, social media friendship, and online friendship increases the probability of experiencing victimization. Young people generally use social media to socialize, maintain existing friendships and make new friends (Acquisti & Gross, 2006). As social media accounts are easily accessible, people can hide their identities by creating anonymous accounts and are open to access at any time without any temporal and spatial restrictions. It might create a risk for cyber-victimization experience (Fancsher & Randa, 2019). The findings of recent studies that social media use increases the risk of cyber-victimization are consistent with the current study (Craig et al., 2020; Sorrentino, Baldry, Farrington, & Blaya, 2019). In addition to these studies, Fancsher and Randa (2019) conducted a study with 1310 undergraduate students, and they found that social media use alone does not pose a risk to cyber-victimization, and that different uses such as sharing personal information or using social media to meet new people create this risk. However, it should be kept in mind that the use of social media in search of support or interaction by young people with low psychological well-being may pose a higher risk of cyber-victimization (Sampasa - Kanyinga & Hamilton, 2015).

In conclusion, in this study, in which the cyber-victimization experiences of university students were examined in terms of psychological symptoms and social media use; It was revealed that there was no gender difference in terms of cyber-victimization experience. Psychological symptom scores and social media usage scores of the group reporting cyber-victimization were higher, and the increase in the level of hostility, paranoid ideation, general social media use, social media friendship, and online friendship increased the likelihood of reporting cyber-victimization experience.

Limitations & Future Studies

The scope of this study is limited to university students in Türkiye during the 2017-2018 academic year. In terms of the generalizability of the findings, the study variables can be re-studied on samples in universities in different countries. Since the data obtained from the research are cross-sectional, it is not possible to interpret the causality between variables. Using longitudinal designs in future research may provide more robust findings for the relationships between variables. Moreover, since the meaning of the cyber-victimization experience can be different for each participant, qualitative studies can provide more detailed data.

Implications

Within the scope of these results, practitioners can provide informative training to students, parents, and educators, starting from primary school to university level, about cyberbullying and cyber-victimization, the possible negative consequences, and where they can apply when faced with such behaviors. Again, practitioners regarding the conscious use of social media can provide training to all segments of society, especially students. Psychological counselors and other mental health professionals working with university students can plan individual and psycho-education intervention programs that will allow young people to protect themselves against negative online experiences, increase their life skills, and develop better-coping strategies recognizing their anger emotions. Researchers can obtain more comprehensive data by examining the cyber-victimization experience with qualitative methods and examine the relationship between the cyber-victimization experience with hostility and paranoid ideation in more depth. Finally, considering the prevalence of cyber-victimization and its relationship with psychological symptoms, policymakers can prepare legal regulations that encourage schools and universities to prevent cyberbullying.

REFERENCES

Akada, T., & Kabasakal, Z. (2018). Siber Zorbalık ve Üniversite Öğrencilerine İlişkin Bir Değerlendirme [An Evaluation Regarding Cyber Bullying and University Students]. *Social Sciences Studies Journal, 4*(24), 4977-4993. https://doi.org/10.26449/sssj.961

Andreassen, C. S., Billieux, J., Griffiths, M. D., Kuss, D. J., Demetrovics, Z., Mazzoni, E., & Pallesen, S. (2016). The relationship between addictive use of social media and video games and symptoms of psychiatric disorders: A large-scale cross-sectional study. *Psychology of Addictive Behaviors, 30*(2), 252-262. https://doi.org/10.1037/adb0000160

Arıcak, O. T. (2009). Psychiatric symptomatology as a predictor of cyberbullying among university students. *Eurasian Journal of Educational Research, 34,* 167-184.

Arıcak, O. T. (2011). Siber zorbalık: gençlerimizi bekleyen yeni tehlike [Cyberbullying is the new danger facing our youth]. *Kariyer Penceresi, 2*(6), 10-12.

Ayas, T., & Horzum, M. B. (2014). Orta öğretim öğrencilerin psikolojik belirtilere göre sanal zorba ve sanal mağdur düzeylerinin yordanması [Prediction of cyberbully and cyber victimization levels of secondary school students according to psychological symptoms]. *Online Journal of Technology Addiction & Cyberbullying, 1(2),* 21-36.

Baldry, A. C., Sorrentino, A., Farrington, D. P., & Blaya, C. (2019). Epidemiology of Cyberbullying across Europe: Differences between Countries and Genders. *Educatıonal Sciences: Theory & Practice, 19*(2), 74-91. https://doi.org/10.12738/estp.2019.2.005

Baldwin, J. R., Ayorech, Z., Rijsdijk, F. V., Schoeler, T., & Pingault, J. B. (2020). Cyber-victimisation and mental health in young people: A co-twin control study. *Psychol Med, 4*, 1-11. https://doi.org/10.1017/S0033291720001178

Bauman, S., & Baldasare, A. (2015). Cyber aggression among college students: Demographic differences, predictors of distress, and the role of the university. *Journal of College Student Development, 56*(4), 317–330. https://doi.org/10.1353/csd.2015.0039

Belsey, B. (2007). Cyberbullying: A real and growing threat. *ATA Magazine, 88*(1), 14-21.

Calpbinici, P., & Tas-Arslan, F. (2019). Virtual behaviors affecting adolescent mental health: The usage of Internet and mobile phone and cyberbullying. *Journal of Child and Adolescent Psychiatric Nursing, 32*(3), 139-148. https://doi.org/10.1111/jcap.12244

Craig, W., Boniel-Nissim, M., King, N., Walsh, S. D., Boer, M., Donnelly, P. D., Harel-Fisch, Y., Malinowska-Cieślik, M., Gaspar de Matos, M., Cosma, A., & Van den Eijnden, R. (2020). Social Media Use and Cyber-Bullying: A Cross-National Analysis of Young People in 42 Countries. *Journal of Adolescent Health, 66*(6), 100-108. https://doi.org/10.1016/j.jadohealth.2020.03.006

Derogatis, L. R. (1992). *BSI: Administration, scoring, and procedures Manual-II*. Clinical Psychometric Research.

Dilmaç, B. (2009). Sanal zorbalığı yordayan psikolojik ihtiyaçlar: Lisans öğrencileri için bir ön çalışma [Psychological needs as a predictor of cyber bullying: a preliminary report on college students]. *Kuram ve Uygulamada Eğitim Bilimleri, 9*(3), 1291-1325.

Dinç, Y. (2020). *Öğretmen Adaylarının Uzaktan Eğitim Tercihlerini Etkileyen Faktörlerin Belirlenmesi* (Publication number: 659972) [Master dissertation, Necmettin Erbakan University]. Council of Higher Education Thesis Center.

Erdur-Baker, Ö. (2010). Cyberbullying and its correlation to traditional bullying, gender, and frequent and risky usage of internet-mediated communication tools. *New Media & Society*, *12*(1), 109–125. https://doi.org/10.1177/1461444809341260

Fansher, A. K., & Randa, R. (2019). Risky Social Media Behaviors and the Potential for Victimization: A Descriptive Look at College Students Victimized by Someone Met Online. *Violence and Gender. 6*(2), 115-123. https://doi.org/10.1089/vio.2017.0073

Felipe-Castaño, E., León-del-Barco, B., Polo-del-Río, M. I., Mendo-Lázaro, S., Gómez-Carroza, S., & Fajardo-Bullón, F. (2019). Differential Analysis of Psychopathological Impact of Cyberbullying in University Students. *Front Psychol, 10*, 1620. https://doi.org/10.3389/fpsyg.2019.01620

Fırat, M., & Ayran, G. (2016). Üniversite Öğrencileri Arasında Sanal Zorbalık [Cyberbullying among college students]. *TAF Preventive Medicine Bulletin, 15*(4), 322-329. https://doi.org/10.5455/pmb.1-1450776947

Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2012). *How to design and evaluate research in education*. McGraw-Hill.

Freeman, D. (2016). Persecutory delusions: A cognitive perspective on understanding and treatment. *Lancet Psychiatry, 3*, 685-692. https://doi.org/10.1016/S2215-0366(16)00066-3

Henson, B., Reyns, B. W., & Fisher, B. S. (2011). Security in the 21st Century: Examining the Link Between Online Social Media Activity, Privacy, and Interpersonal Victimization. *Criminal Justice Review, 36*(3), 253-268. https://doi.org/10.1177/0734016811399421

Ildırım, E., Çalıcı, C., & Erdoğan, B. (2017). Psychological correlates of cyberbullying and cyber-victimization. *International Journal of Human and Behavioral Science, 3*(2): 7-21. http://doi.org/10.19148/ijhbs.365829

Kemp, S. (2020). *Digital in 2020: 3.8 billion people use social media*. https://wearesocial.com/uk/blog/2020/01/digital-2020-3-8-billion-people-use-social-media/

Kowalski, R. M., & Whittaker, E. (2015). Cyberbullying: Prevalence, causes, and consequences. In L. D. Rosen, N. A. Cheever, L. M. Carrier, L. D. Rosen, N. A. Cheever, & L. M. Carrier (Eds.), *The Wiley handbook of psychology, technology and society* (pp. 142–157). Wiley-Blackwell.

Kowalski, R. M., Giumetti, G. W., Schroeder, A. N., & Lattanner, M. R. (2014). Bullying in the digital age: A critical review and meta-analysis of cyberbullying research among youth. *Psychological Bulletin, 140*, 1073–1137. https://doi.org/10.1037/a0035618

Kowalski, R. M., Morgan, C. A., Drake-Lavelle, K., & Allison, B. (2016). Cyberbullying Among College Students with Disabilities. *Computers in Human Behavior, 57*, 416-427. https://doi.org/10.1016/j.chb.2015.12.044

Kross, E., Verduyn, P., Demiralp, E., Park, J., Lee, D. S., Lin, N., Shablack, H., Jonides, J., & Ybarra, O. (2013). Facebook use predicts declines in subjective well-being in young adults. *PLoS ONE, 8*(8), Article e69841. https://doi.org/10.1371/journal.pone.0069841

Laconi, S., Kaliszewska-Czeremska, K., Gnisci, A., Sergi, I., Barke, A., Jeromin, F., Groth, J., Gamez-Guadix, M., Ozcan, N. K., Demetrovics, Z., Király, O., Siomos, K., Floros, G., & Kuss, D. J. (2018). Cross-cultural study of Problematic Internet Use in nine European countries. *Computers in Human Behavior, 84,* 430–440. https://doi.org/10.1016/j.chb.2018.03.020

Lenhart, A. (2015, August 6). *Teens, Technology and Friendships*. https://www.pewresearch.org/internet/2015/08/06/teens-technology-and-friendships/

Lin, L. Y., Sidani, J. E., Shensa, A., Radovic, A., Miller, E., Colditz, J. B., Hoffman, B. L., Giles, L. M., & Primack, B. A. (2016). Association between social media use and depression among U.S. young adults. *Depression and Anxiety, 33* (4), 323-331. https://doi.org/10.1002/da.22466

Lin, L., Liu, J., Cao, X., Wen, S., Xu, J., Xue, Z., & Lu, J. (2020). Internet addiction mediates the association between cyber-victimization and psychological and physical symptoms: Moderation by physical exercise. *BMC Psychiatry, 20*, Article 144. https://doi.org/10.1186/s12888-020-02548-6

Mesch, G. S. (2009). Parental mediation, online activities, and cyberbullying. *CyberPsychology & Behavior*, *12*(4), 387-393. https://doi.org/10.1089/cpb.2009.0068

Özgür, H. (2016). Adapting the media and technology usage and attitudes scale to Turkish. Educational Sciences: Theory and Practice, 16(5), 1711-1735. https://doi.org/10.12738/estp.2016.5.0085

Rosen, L. D., Whaling, K., Carrier, L. M., Cheever, N. A., & Rokkum, J. (2013). The Media and Technology Usage and Attitudes Scale: An empirical investigation. *Computers in Human Behavior, 29*(6), 2501–2511. https://doi.org/10.1016/j.chb.2013.06.006

Şahin, N. H., & Durak, A. (1994). Kısa Semptom Envanteri: Türk gençleri için uyarlanması [Brief Symptom Inventory: Adaptation for the Turkish youth]. *Türk Psikoloji Dergisi, 9*, 44-56.

Sahin, N. H., Batigün, A. D., & Uğurtaş, S. (2002). The validity, reliability, and factor structure of the Brief Symptom Inventory (BSI). *Turkish journal of psychiatry, 13*(2), 125-135.

Sampasa-Kanyinga, H., & Hamilton H. A. (2015). Social mediaing sites and mental health problems in adolescents: The mediating role of cyberbullying victimization. *European Psychiatry, 30*(8), 1021-1027. https://doi.org/10.1016/j.eurpsy.2015.09.011

Schenk, A. M., Fremouw, W. J., & Keelan, C. M. (2013). Characteristics of College Cyberbullies. *Computers in Human Behavior, 29*, 2320–2327. https://doi.org/10.1016/j.chb.2013.05.013

Sorrentino, A., Baldry, A. C., Farrington, D. P., & Blaya, C. (2019). Epidemiology of cyberbullying across Europe: Differences between countries and genders. *Educational Sciences: Theory & Practice*, *19*(2), 74-91. https://doi.org/10.12738/estp.2019.2.005

Spears B. A, Taddeo C. M, Daly A. L, Stretton A, & Karklins L. T. (2015). Cyberbullying, helpseeking and mental health in young Australians: implications for public health. *Int J Public Health, 60*(2), 219–226. https://doi.org/10.1007/s00038-014-0642-y

Topcu, Ç. (2014). *Modeling the relationships among coping strategies, emotion regulation, rumination, and perceived social support in victims of cyber and traditional bullying* (Publication number: 377835) [Doctoral dissertation, Middle East Technical University]. Council of Higher Education Thesis Center.

Wells, C. (2012, October 9). *Family of Jessica Logan, who hanged herself after nude-picture sexting led to bullying, awarded $154,000 in settlement*. Daily News. https://www.nydailynews.com/news/national/teen-bullying-victim-family-settlement-article-1.1178783

Yang, S. C. (2012). Paths to bullying in online gaming: The effects of gender, preference for playing violent games, hostility, and aggressive behavior on bullying. *J. Educatıonal Computıng Research, 47*(3), 235-249.

Ybarra, M. L., & Mitchell, K. J. (2004). Online aggressor/targets, aggressors, and targets: A comparison of associated youth characteristics. *Journal of Child Psychology and Psychiatry, 45*(7), 1308–1316. https://doi.org/10.1111/j.1469-7610.2004.00328.x

Yıldırım, T. (2006). *Sosyal kaygısı yüksek üniversite öğrencilerine uygulanan kısa-yoğun-acil psikoterapinin etkililiği* (Publication number: 159443) [Doctoral dissertation, Hacettepe University]. Council of Higher Education Thesis Center.

About Authors

Taşkın Yıldırım. Currently he is workig as a Prof. Dr. in the Department of Counseling and Psychological Guidance, Faculty of Education, İnönü University, Malatya, TÜRKIYE. He conducts research studies on psychotherapeutic methods for coping with adolescent and adult problems and brief-intensive-emergency psychotherapy. He teaches dynamic-oriented individual and group counseling practices, supervision, personality theories, crisis and crisis intervention, assessment and formulation in the psychological help process at undergraduate and graduate levels.
Research Interests: Brief-emergency-psychotherapy, Hypnosis, Supervision training, Psychoanalysis, Counseling, Adolescence, Early Adulthood, Dynamic Oriented Holistic Psychotherapy

Dilvin Tan Kurtay. She graduated from Cumhuriyet University, Department of Psychological Counseling and Guidance in 2014. She is currently a master's student at İnönü University in the Department of Psychological Counseling and Guidance. Since 2014, she has been working as a school psychological counselor at K12 level.
Research Interests: Technology Addiction, Cyberbullying, Social Media Addiction, Primary School Students

Sonay Caner-Yıldırım. In 2011, after 8 months of teaching experience at the Ministry of National Education, she moved to academia and completed her master's and doctoral studies at Middle East Technical University (METU). From 2013 to 2021, she worked as a research assistant at METU. Currently, she is working as a PhD in the Department of Computer Education and Instructional Technology, Faculty of Education, Erzincan Binali Yıldırım University, Erzincan, TÜRKİYE. Currently, she is a researcher in two COST projects related to gender equality in computer science and mental health of researchers.
Research Interests: Gender Studies in Computer Sciences, Internet Use Behavior, Self-regulation, Self-control, Instructional Technology, Educational Psychology,

Author Contribution

TY and SCY designed the study. DTK conducted the statistical analyses and wrote the first draft of the manuscript. TY and SCY supervised the writing and revised the article. SCY translated the article into English. All authors reviewed the manuscript for intellectual content, read and approved the final version of the manuscript.

Conflict of Interest

The authors report no conflicts of interest.

Funding

The authors received no financial support for the research, authorship, and/or publication of this article.

Ethical Statement

This study was conducted with the approval of the İnönü University Social Sciences and Humanities Scientific Research Ethics Committee, Malatya, Türkiye.
Ethics Committee Name: İnönü University Social Sciences and Humanities Scientific Research Ethics Committee
Approval Date: 07.12.2017
Approval Document Number: 2017/19-01