The Investigation of Prevalence and Risk Factors Associated with Cyber Bullying and Victimization

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Abstract

The aim of this study was to examine risk factors related to cyber bullying and victimization. The study was carried out with 160 adolescents applying to the Child/Adolescent Psychiatry Outpatient Clinic of the Faculty of Medicine of Süleyman Demirel University in Isparta, Turkey. Data was collected through using the Socio-Demographic Information Form, Internet Addiction Scale, and Cyber Victim and Bullying Scale. The results of the study showed that cyber bullying was related to gender, the risk of Internet addiction, the frequency of visiting Internet cafes, adolescents' perception of their mothers' Internet skills, the daily duration of visiting social networking sites, usage of the Internet predominantly to play online games, the monthly income of the family, and the mothers' educational status. Cyber victimization, on the other hand, was found to be related to the risk of Internet addiction, the frequency of visiting Internet cafes, adolescents' perception of their mothers' Internet skills, and usage of the Internet predominantly to play online games. The results of the study were discussed in the light of relevant literature.

Introduction

Although developments in information and communications technology give adolescents opportunities to make and maintain new friendships, access and share information, achieve healthy self-development, discover their identity, find social support, and experience intercultural interaction, they bring many detrimental things as well (Valkenburg & Peter, 2007). One of the most common of these is cyber bullying (Li, 2007).

Cyber bullying is defined as an individual or group repeatedly using information and communication technology with malicious intent for the purpose of doing harm to other individuals (Belsey, 2004). Cyber bullying negatively affects both cyber bullies and their victims. These victims have been found to suffer from psychological problems such as depression, social anxiety, low self-esteem, alcohol and substance abuse, self-injury and eating disorders (Ybarra & Mitchell, 2007),

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feelings of isolation and helplessness (Hinduja & Patchin, 2008; Yaman & Peker, 2012), inability to concentrate on school work (Juvonen & Gross, 2008), low academic self-efficacy (Eroğlu, 2011), truancy, and bringing firearms to school (Mitchell, Ybarra & Finkelhor, 2007). Cyber bullies, for their part, are reported to frequently break rules, act hostile towards individuals who are around them (Arıcak, 2009), experience psychological maladjustment (Çetin, Eroğlu, Peker, Akbaba & Pepsoy, 2012; Peker, in press), and exhibit aggressiveness (Ybarra & Mitchell, 2007). A longitudinal study by Blais (2008) found that cyber bullying significantly predicts an increased risk of substance addiction, while cyber victimization predicts a decrease in life quality. When cyber bullying is accompanied by stressful living conditions, it can reportedly even lead to suicide (Bauman, Toomey & Walker, 2013; Hinduja & Patchin, 2009).

The negative consequences of cyber bullying have led to more studies into the risk factors related to this phenomenon. These studies found significant relationships between cyber bullying/victimization and the factors of gender, age (Ayas & Horzum, 2012; Hinduja & Patchin, 2010; Peker & Eroğlu, 2013; Peker, Eroğlu & Çitemel, 2012), monthly income of the family (Arslan, Savaşer, Hallett & Balcı, 2012), educational status of the parents, whether the parents live together or not (Mitchell, Finkelhor, Wolak, 2003), where they access the Internet (Akbulut, Şahin & Erişti, 2010), the frequency of visiting Internet cafes (Akbulut & Erişti, 2011), overuse of the Internet (Peker, 2013), computer skills (Ybarra & Mitchell 2004), adolescents' perception of their parents' Internet skills, purposes of using the Internet (Akbulut et al., 2010), supervision by parents and school staff (Kabalcıoğlu & Eroğlu, 2013; Spears, Slee, Owens & Johnson, 2008), usage of a filtering program (Eroğlu, 2014; Mitchell, Finkelhor & Wolak, 2005), and the frequency of visiting social networking sites (O'Dea & Campbell, 2012).

Another reported factor related to both cyber bullying and victimization is Internet addiction (Ekşi, 2012). Although there is as yet no agreed-upon definition of Internet addiction, it includes "failure to control internet use, effecting of internet use on individual's psychology, working life, achievement in academic life and social relationships and feeling unhappy when deprived of internet" (Shapira, Goldsmith, Keck, Khosla & McElroy, 2000). To characterize Internet addiction, researchers have used a variety of terms such as pathological Internet use (Davis, 2001), problematic Internet use (Caplan, 2003), overuse of the Internet (Hansen, 2002), compulsive Internet use (Greenfield, 1999), cyberspace addiction (Suler, 2004), high Internet addiction (Davis, Flett & Besser, 2002) and virtual dependency (Greenfield, 1999).

Researchers have proposed various diagnostic criteria for Internet addiction. To determine these criteria, Young (1998) used as a basis the pathological gambling criteria included in the DSM-IV, and Shapira et al. (2000) employed the criteria for impulse-control disorders. However, in this study, individuals at risk for Internet addiction were determined using the Internet Addiction Scale (Nichols & Nicki, 2004) (IAS) based on the six diagnosis criteria (salience, mood modification, tolerance, withdrawal, conflict, and relapse) developed by Griffiths (2005), using substance dependence criteria as a basis. Salience includes attaching excessive importance to a certain activity and placing it at the center of life; mood modification indicates individuals experiencing changes in mood when using the Internet; tolerance development includes needing increasing amounts of Internet usage to achieve the same effects on mood; withdrawal includes experiencing unpleasant feelings or physical effects when deprived of the Internet; conflict includes interpersonal and intra-psychic problems; and relapse includes failure to give up Internet usage even when the subject desires it (Griffiths, 2005).

Purpose of the Study

Recent studies have indicated that cyber bullying and victimization is a very common problem in Turkey (Çetin, Peker, Eroğlu & Çitemel, 2011; Dilmaç, 2009; Ekşi, 2012). However, the paucity of studies into risk factors related to cyber bullying/victimization and the varying results of these studies indicates the need for more research to shed light on these factors. For this reason, this study aimed to determine the predictive roles on cyber bullying and victimization of the following factors: Internet addiction risk, gender, age, monthly income of the family, educational status of the

parents, whether the parents live together or not, whether the Internet is accessed at home or at school, the frequency of visiting Internet cafes, weekly duration of Internet use, perceived computer skill level, adolescents' perception of their parents' Internet skills, supervision by parents and school staff, usage of a filtering program, the types of Internet activities most used by adolescents, and the daily frequency of visiting social networking sites.

Method

Model of the Study

Relational survey design was used in the study. Relational survey designs are research designs aiming to determine the co-existence or degree of relation between two or more variables. Although relational survey design does not give a real cause-effect relationship, when the state of one variable is known, it provides an opportunity to predict the other (Karasar, 2006; Seçer, 2014).

Participants

Adolescents brought by their parents to the Child/Adolescent Psychiatry Outpatient Clinic of Süleyman Demirel University (SDU) due to excessive Internet/computer use were administered the Internet Addiction Scale (IAS). Adolescents receiving a score of 81 or higher on the scale constituted the group of individuals at risk for Internet addiction. Adolescents diagnosed as having a psychotic disorder, bipolar disorder, mental retardation, or a pervasive developmental disorder were excluded from the study on principle. The adolescents receiving a score of 81 or lower on the IAS constituted the group who were not at risk for Internet addiction. The study included 160 adolescents, 80 at risk and 80 not at risk for Internet addiction, with both groups matched in terms of age and gender. The ages of the participants ranged between 14 and 18 (15.55±1.16), 86 of them (53.8%) male and 74 (46.2%) female. The average Internet use duration of the participants was determined to be 179±2.13 minutes on weekdays and 234±2.34 minutes on weekends. Table 1 indicates descriptive statistics for the participants.

Table 1. Descriptive Statistics about Cyber Bullying

	Total (n=160)		Gender		Age		Internet Addiction Risk	
	n	%	Females (n=74)	Males (n=86)	14-15	16-18	Yes	No
Neither cyber bully nor victim	27	16.9	40.7	59.3	48.1	51.9	37	63
Cyber bullies	11	6.9	63.6	36.4	18.2	81.8	45.5	54.5
Cyber victims	14	8.7	71.4	28.6	21.4	78.6	57.1	42.9
Cyber bully/victims	108	67.5	42.6	57.4	53.7	46.3	46.3	53.7

Measurement Tools

Sociodemographic Information Form: This form includes questions aiming to determine the independent variables of our study.

Internet Addiction Scale (IAS): Developed by Nichols and Nicki (2004) and adapted into Turkish by Canan, Ataoğlu, Nichols, Yıldırım and Özturk, (2010) the IAS is a 31-question, five-point [from 1 (never) to 5 (always)] Likert-type scale with one factor aiming to determine individuals at risk for Internet addiction based on the diagnostic criteria proposed by Griffiths (2005). In the study carried out by Canan et al.(2010), it was determined that the cutting point of the Turkish version of the scale was 81. In our study, too, adolescents receiving a score of 81 or over on the IAS were accepted as being at risk for Internet addiction. In the study where the scale was developed, the scale's reliability was found to be 0.95 (Nichols & Nicki, 2004) and in the study where it was adapted into Turkish, 0.94 (Canan et al., 2010); in this study, however, it was found to be 0.87. In addition, the construct validity of IAS was investigated using exploratory factor analysis. As a result of exploratory factor analysis, one factor which accounted for 48.73 % of the variance was yielded. The results of exploratory factor analysis indicated that factor loadings of items in IAS .496 and .813.

Cyber Victim and Bullying Scale (CVBS): Developed by Çetin, Yaman and Peker (2011), the CVBS comprises two parallel forms, the cyber bullying form (CBF) and cyber victimization form (CVF), each including 22 questions. The participants provided information about their cyber victimization states by stating that "It was done to me" and their cyber bullying states using the five-point Likert-type scale in the "I did" section ranging from "Always (5)" to "Never (1)." Higher scores on the cyber victimization form indicated a greater level of cyber victimization, and the same on the cyber bullying form indicated a greater level of cyber bullying. In the study in which the scale was developed, the internal consistency coefficients for both the CBF and CVF were found to be 0.89, and in this study the CBF was found to be 0.90 and the CVF 0.92. The test-retest reliability was determined to be 0.90 for the CBF and 0.85 for the CVF in the study where scale was developed. Additionally, the construct validity of CVBS was investigated via exploratory factor analysis. As a result of exploratory factor analysis for CBF, one factor was yielded accounting for 40.98 % of the variance. The factor loadings of items in CBF ranged from .487 to .865. The results of exploratory factor analysis for CVF indicated that the items constituted a one-factor model accounting for 37.47 % of the variance. The factor loadings of items in CVF were changed between .473 and .74.

Procedure and Data Analysis

The participants were determined through the appropriate sampling method, providing the researcher with ease in terms of time and accessibility (Bayram, 2009). At the beginning of the study, approval was obtained from SDU's Faculty of Medicine Ethics Committee, and the participants gave their informed consent. The scales were administered by research assistants to adolescents applying to SDU's Faculty of Medicine Child/Adolescent Psychiatry Outpatient Clinic. The participants participated in the study voluntarily, and they were informed of the aims of the study and assured that their personal information would be kept confidential. The data were analyzed through using the SPSS 11.5 program. The significance level was taken as 0.05. The differentiation of cyber bullying and victimization in terms of independent variables was examined through independent samples t-testing and one-way ANOVA and the predictive effect of the independent variables on cyber bullying /victimization were examined by stepwise regression analysis. In this analysis, the categorical variables were transformed into dummy variables and subjected to analysis. In multiple comparisons, the Scheffe test was used. Also, the effect sizes were calculated for t test and one way ANOVA.

Results

Table 2. Independent Samples t-test Results of Cyber Bullying and Victimization according to Sociodemographic Variables

Risk factors	N	Cyber Bullying				Cyber Victimization			
		M	SD	t	η2	M	SD	t	η2
Gender									
Female	74	31.78	7.83	2.61*	.20	29.31	10.23	-1.51	.12
Male	86	27.24	13.07			32.11	12.87		
Age									
14-15	76	30.00	10.92	.34	.03	30.96	11.61	.14	.01
16-18	84	29.39	11.44			30.69	11.98		
Monthly income of the family									
Below 2000 TL	90	30.12	10.91	.56	.04	32.23	12.76	1.73	.14
2000 TL and over	70	29.11	11.54			29.00	10.17		
Educational status of mother									
Below high school	81	30.01	10.64	.37	.03	31.64	11.99	.89	.07
Having a high school or over	79	29.34	11.74			29.97	11.56		
Educational status of father									
Below high school	61	30.65	12.36	.86	.07	32.09	13.52	1.07	.09
Having a high school or over	99	29.08	10.38			30.03	10.55		
Connecting Internet at home									
Yes	108	29.43	11.13	-.40	.03	30.87	11.87	.09	.007
No	52	30.19	11.34			30.69	11.67		
Connecting Internet at school									
Yes	80	30.86	13.19	1.34	.11	31.52	12.56	.75	.06
No	80	28.50	8.61			30.11	10.96		
Weekly duration of internet use									
25 hours and less	147	29.10	10.39	-2.20	.17	30.35	11.62	-1.68	.13
26 hours and more	13	36.15	17.01			36.07	12.67		
Controlling of parents									
Yes	101	28.99	9.68	-1.02	.08	31.06	11.83	.35	.03
No	59	30.86	13.35			30.38	11.76		
Controlling of school personnel									
Yes	80	29.38	10.12	-.33	.03	30.08	11.07	-.78	.06
No	80	29.97	12.18			31.55	12.46		
Using a filtering program									
Yes	81	28.74	9.41	-1.07	.09	31.14	11.17	.35	.03
No	79	30.64	12.70			30.48	12.41		
Yearly duration of internet use									
5 years and below	90	29.03	10.81	-.83	.07	31.18	12.59	.45	.04
6 years and over	70	30.51	11.63			30.34	10.70		
Internet addiction risk									
No	80	26.73	6.56	-3.44*	.26	27.58	8.59	-3.59*	.28
Yes	80	32.65	13.80			34.05	13.56		

* p<.05

As seen in Table 2, while the cyber bullying scores differ in terms of gender and the risk of internet addiction, the cyber victimization scores differ only in terms of the risk of internet addiction. When examined in terms of gender, it is observed that the cyber bullying score means of the boys (M=27.24, SD=13.07) are less than those of the girls (M=31.78, SD=7.83). Moreover, it is also observed that the cyber bullying score means (M= 32.65, SD=13.80) and the cyber victimization score means (M= 34.05, SD=13.56) of those who are at risk of internet addiction are greater than the cyber bullying score means (M=26.73, SD=6.56) and the cyber victimization score means (M=27.58, SD=8.59) of those who are not at risk of internet addiction. Furthermore, the effect size values (η2) are observed to vary between .007 and .28.

Table 3. One-way ANOVA Results of Cyber Bullying and Victimization According to Sociodemographic Factors

	N	Cyber bullying				Cyber victimization			
Risk factors		M	SD	F	η2	M	SD	F	η2
Whether parents live together or not									
Parents live together	139	29.79	11.31			30.64	11.54		
Parents do not live together	6	29.66	7.55	.06	.0008	32.33	10.96	.11	.001
Parents are divorced	15	28.66	11.53			31.80	14.70		
Frequency of going to an internet cafe									
Every day	9	41.66	18.46			45.66	19.28		
One or two times in week	26	31.80	11.26			32.03	11.80		
One time in two weeks	22	30.36	9.82	3.31*	.10	29.68	7.50	3.74*	.11
One time in a month	27	29.51	9.58			29.48	9.55		
4-5 times a month	12	30.16	17.18			32.66	13.62		
Never	64	26.87	8.30			28.84	10.98		
Perceived computer skills									
Bad	5	23.80	2.94			24.00	2.91		
Medium	69	27.98	10.22	2.53	.03	29.76	12.93	1.60	.02
Good	86	31.38	11.91			32.05	10.95		
Adolescent's perception of mother's internet skills									
Worse than me	135	40.00	18.58			42.14	18.77		
Better than me	7	29.86	11.03	5.39*	.06	30.69	11.19	4.19*	.05
Same level as me	18	24.27	3.13			27.33	10.93		
Adolescent's perception of father's internet skills									
Better than me	34	28.67	9.94			30.55	11.25		
Worse than me	88	30.46	10.19	.48	.006	31.38	11.39	.27	.003
Same level as me	38	28.76	14.15			29.73	13.25		
Types of internet activities most used									
Online games	28	30.42	9.30			32.10	10.89		
Chatting	11	27.72	12.52			29.27	10.53		
Gaining information	18	29.61	12.48			28.00	10.22		
Purposeless surfing web	8	27.25	5.72	.28	.03	32.12	14.79	.66	.44
Entering social networking sites	83	30.22	12.20			31.63	12.81		
Others	12	27.66	7.71			26.91	6.74		
Daily frequency of using social networking sites									
Most one hour	72	27.13	8.86			29.20	11.02		
Between one and three hours	46	31.73	11.79	5.64*	.08	31.73	12.50	2.13	.03
3 hours or more	24	35.41	15.88			34.83	13.43		

* p<.05

As seen in Table 3, the cyber bullying scores differ according to the frequency of going to an internet cafe, the adolescent's perception of mother's internet skills and daily frequency of using social networking sites; the cyber victimization scores differ according to the frequency of going to n internet café and the adolescent's perception of mother's internet skills. In terms of the frequency of going to an internet café, the cyber bullying score means of those who go to an internet café every day (M=41.66, SD=18.46) are observed to be greater than those of the ones who never go to internet café (M=26.87, SD=8.30). Moreover, the cyber victimization score means of those who go to an internet café every day (M=45.66, SD=19.28) were determined to be greater than those of the ones who go to an internet café once every other week (M=29.68, SD=7.50) and those who go to an internet café once a month (M=29.48, SD=9.55). In terms of the adolescent's perception of mother's internet skills, the cyber bullying score means (M=40.00, SD=18.58) and the cyber victimization score means (M=42.14, SD=18.77) of the adolescents who perceive their mothers' internet skills as worse than theirs were found to be greater than the cyber bullying score means (M=24.27, SD=3.13) and the cyber victimization score means (M=27.33, SD=10.93) of the one who perceive their mothers' internet skills as the same level as theirs. Moreover, it was also found that the cyber victimization score means (M=42.14, SD=18.77) of the adolescents who perceive their mothers' internet skills as worse than theirs were greater than those (M=30.69, SD=11.19) of the ones who perceive their mothers' internet skills as better than theirs. Lastly, it was determined that the cyber bullying score means of the adolescents who use social networking sites three or more hours a day (M=35.41, SD=15.88) were greater than those of the ones who use social networking sites at most one hour a day (M=27.13, SD=8.86). It is observed that the influence size values (η2) vary between .0008 and .44.

Table 4. Regression Results for Cyber Bullying and Victimization

	Cyber Bullying					**Cyber Victimization**			
Variables	**B**	**Standard Error of B**	**β**	**t**	**Variables**	**B**	**Standard Error of B**	**β**	**t**
Step 1					**Step 1**				
Using the Internet mostly to play online games	12.41	3.88	.26	3.19*	Using the Internet mostly to play online games	15.47	4.05	.31	3.81*
Step 2					**Step 2**				
Using the Internet mostly to play online games	12.28	3.77	.25	3.25*	Using the Internet mostly to play online games	15.33	3.91	.30	3.91*
Internet addiction risk	-5.67	1.84	-.24	-3.08*	Internet addiction risk	-6.25	1.91	-.25	-3.26*
Step 3					**Step 3**				
Using the Internet mostly to play online games	11.51	3.72	.24	3.09*	Using the Internet mostly to play online games	14.49	3.86	.28	3.75*
Internet addiction risk	-5.14	1.82	-.22	-2.81*	Internet addiction risk	-5.66	1.89	-.23	-2.99*
Thinking that his/her mother's internet skill is worse than his/hers	10.68	4.54	.18	2.34*	Thinking that his/her mother's internet skill is worse than his/hers	11.62	4.17	.19	2.46*

Step 4

Using the Internet mostly to play online games	12.57	3.69	.26	3.40*
Internet addiction risk	-5.15	1.79	-.22	-2.86*
Thinking that his/her mother's internet skill is worse than his/hers	11.15	4.48	.19	2.48*
Monthly income of the family	-4.22	1.80	-.18	-2.34*
Step 5				
Using the Internet mostly to play online games	13.73	3.66	.28	3.74*
Internet addiction risk	-5.24	1.77	-.22	-2.96*
Thinking that his/her mother's internet skill is worse than his/hers	9.62	4.45	.16	2.16*
Monthly income of the family	-7.13	2.16	-.31	-3.30*
Educational status of mother	5.08	2.16	.22	2.35*
Step 6				
Using the Internet mostly to play online games	12.21	3.69	.25	3.30*
Internet addiction risk	-5.17	1.74	-.22	-2.96*
Thinking that his/her mother's internet skill is worse than his/hers	10.60	4.42	.18	2.39*
Monthly income of the family	-6.79	2.14	-.29	-3.17*
Educational status of mother	5.13	2.13	.22	2.41*
Gender	-3.79	1.78	-.16	2.12*

* $p<0.05$

As seen in Table 4, it was found that the factors of using the Internet predominantly to play online games, being at risk for Internet addiction, seeing the mother's Internet skills as less than one's own, the family's monthly income, the mother's educational status, and gender all predict cyber bullying significantly. These variables together accounted for 25% of cyber bullying. The variables of using the Internet predominantly to play online games, being at risk for Internet addiction, and seeing the mother's Internet skills as less than one's own predict cyber victimization significantly as well. These three variables together accounted for 19% of cyber victimization.

Discussion, Conclusion and Suggestions

This study found that the percentage of cyber bully/victims was 67.5%, that of cyber victims was 8.7%, and that of cyber bullies was 6.9%. In other studies done in Turkey, the percentages of cyber bullies ranged between 2% and 35.7%, those of cyber victims between 5.9% and 36.7%, and those of cyber bully/victims between 17.7% and 23.8% (Arslan et al., 2012). Since the study samples varied (Arslan et al., 2012) and different researches defined by cyber bullying in different ways (Belsey, 2004; Hinduja & Patchin, 2009) and measurement methods varied [in some, cyber bullying and victimization were defined and then subjects were asked whether they saw themselves as bullies or victims, but in others, without characterizing actions as cyber bullying, participants were asked how often they performed certain actions (Çetin et al., 2011)] ,comparing findings from these studies is difficult.

The findings obtained from this study indicated that girls do more cyber bullying than boys. Some studies (Hinduja & Patchin, 2010; Slonje & Smith, 2008; Wolak, Mitchell & Finkelhor, 2002) put forward, in consistent with this study, that girls do more cyber bullying than boys. However, there are also studies (Arıcak et al., 2008; Dilmaç, 2009; Vanbosch & VanCleemput, 2009; Williams & Guerra, 2007) indicating that boys do more cyber bullying than girls. Findings obtained from studies made in Turkey generally indicate that boys do more cyber bullying than girls (Eroğlu, 2011). However, the opposite finding found in this study might be due to the fact that cyber bullying includes relational bullying behaviors. Moreover, that girls are raised under different socialization processes than boys in Turkey might have led to this difference as well. Girls in Turkey are raised under more discipline and expected to control their aggressive behaviors more than boys (Akbulut & Erişti, 2011). For this reason, it can be stated that girls who do not behave aggressively in real life try to compensate this situation by doing cyber bullying. Again, examination of the relation between gender and cyber bullying behaviors will be useful in order to better understand this relationship.

In this study, it was found that the participants whose monthly family income was below 2000 TL did more cyber bullying than those whose monthly family income was above 2000 TL. This finding indicates the need for new studies to be made on various variables considered to mediate the relationship between monthly family income and cyber bullying. For example, it can be stated that one of these variables can be conscious internet use. In other words, that adolescents raised in families with low monthly income have lower awareness regarding conscious internet use might have led to this conclusion (Topçu, Erdur-Baker & Çapa-Aydın, 2008). On the other hand, some studies indicate that as monthly family income increases so does cyber bullying (Akbulut et al., 2010; Wang, Ianotti & Nansel, 2009) or cyber bullying has nothing to do with monthly family income (Eroğlu, 2011; Kabalcıoğlu & Eroğlu, 2013). Researchers (Akbulut et al., 2010; Wang et al., 2009) attribute the fact that as monthly family income increases so does the rate of doing cyber bullying to more opportunities which individuals with a high level of monthly family income have to access information and communication technologies. However, there are also researchers who claim that since information and communication technologies have become popular and cheaper, individuals with low monthly family income can easily access information and communication technologies as well. According to researchers who claim that adolescents with low monthly family income can easily access information and communication technologies, monthly family income is no longer a risk factor for cyber bullying.

It was found that the participants with mothers having an education level below high school did more cyber bullying than those with mothers having an education level at high school or above. In a study made by Akbaba and Eroğlu (2013), too, in consistent with this study, it was determined that as the education level of the mother decreased, the cyber bullying increased. However, there are also studies indicating that as the education level of the mother increases, so does the cyber bullying (Laftman, Modin & Östberg, 2013; Serin, 2012). In this study, as reasons for the finding that decreasing mother education level increased cyber bullying can be indicated the fact that the quality of communication which the mother establishes with her child and her awareness level about what the child does on the Internet are related to her education level. In other words, the fact that as the

mother's education level decreases, she adopts a strict and repressive approach in her relationship with her child (Erdoğan & Uçukoğlu, 2011) and her awareness about her child's internet behaviors decreases (Liau, Khoo & Ang, 2005) might have led to the increase in the child's cyber bullying behaviors.

It is stated that perception of mother's internet skills as insufficient is related to cyber bullying and cyber victimization. However, no relationship was found between the perception of father's internet skills and cyber bullying and victimization. The reason for this might be the fact that the mother undertakes more responsibility in inspecting the child's behaviors. Moreover, in a study made by Ybarra and Mitchell (2004), it was found that cyber bullying was affected considerably by the behaviors of those who provide care. Moving from this finding, it can be stated that increasing the mother's internet skills will play an important role in protecting adolescents against cyber bullying and victimization. The finding found in a study by Liau et al., (2005) that mothers' awareness levels about their children's cyber bullying and victimization experiences were higher than those of the fathers supports this suggestion.

It was found that the frequency of going to an internet café and cyber bullying and victimization were related. In a study by Akbulut et al., (2010), too, similar findings were obtained. Akbulut et al., (2010) attributed this to the fact that cyber activities are not inspected sufficiently in internet cafés. However, there are also studies indicating no relationships between those who go to an internet café and those who do not in terms of cyber bullying and victimization (Kabalcıoğlu & Eroğlu, 2013; Eroğlu, 2014). The above-mentioned researchers attribute this to the fact that security measures have been increased in internet cafes through legal regulations.

It was found that those who use social networking sites three hours and more a day did more cyber bullying than those who use at most one hour a day. That individuals can hide their identities and introduce themselves with different identities in social networking sites sets ground for cyber bullying. In this context, it can be stated that since social networking sites make it possible to share personal information inadequately and provide many people with the opportunity to access them easily, the rate of cyber bullying behaviors in these mediums has increased (Mesch, 2009). In a study made by Dredge, Gleeson and Garcia (2014), the finding that sharing personal information in Facebook has led to increase in cyber bullying behaviors seems to support this interpretation. When these research studies are evaluated together, it can be stated that cyber bullies mostly choose social networking sites to find victims for them. Moreover, in a study by Özdemir and Akar (2011), too, it was found that students did cyber bullying mostly in Facebook.

It was found that using the Internet mostly for playing online games and cyberbullying and victimization were related. In interactive virtual environments like online games, it can be stated that adolescents can do cyberbullying in order to be accepted by the group and win the game. However, in some cases, it is observed that adolescents prefer online games with the aim of cyberbullying other individuals rather than winning the game and this situation is called "griefing". It can be stated that especially games based on group interaction create a risk for cyber bullying. For it is stated that in these kinds of games acceptance by the group and aim to increase status in the group increase the possibility of cyber bullying and victimization (Ko, Yen, Liu, Huang & Yen, 2009). Investigation into the predictive power of the interaction of various psychological structures (extroverted, seeking excitement, risk taking) through online games on cyber bullying will help to understand this mechanism better.

That being at risk for internet addiction and cyber bullying and victimization were found related is consistent with findings obtained from previous studies. It can be stated that being at risk for internet addiction characterized by the desire in individuals to continuously connect the Internet, affecting individuals' moods negatively, increasing social isolation and leading to breaking up with close relationships (Aktepe, Olgaç-Dündar, Soyöz & Sönmez, 2013; Eroğlu, 2014; Ybarra & Mitchell, 2004) increases the possibility of cyber bullying and victimization. In a study by Ekşi (2012), it was found that among the sub-dimensions of the internet addiction only social isolation predicted cyber bullying significantly. This finding indicates that individuals with broken social relationships due to internet addiction have also broken relationships in virtual environment. The finding obtained in a study by Çetin et al., (2011) that cognitive distortion about relationships predicted cyber bullying and victimization seems to support this interpretation. In the study by Çetin et al., (2011), too, similar to the one made by Ekşi (2012), it was found that the dimension which predicted cyber bullying most was avoidance from closeness. In this context, it can be stated that the examination of the relationship between internet addiction and cyber bullying in terms of the dimensions of internet addiction will increase conceptual accumulation related to the mechanism of this relationship. Moreover, determination of variables mediating the relationship between being at risk for internet addiction and cyber bullying and victimization will help to understand this relationship better.

There are some limitations to this study including important findings shedding light into the relationship between cyber bullying and victimization. Firstly, that the study was carried out with adolescents limits the generalizability of the findings. Secondly, that correlational techniques were used in the study makes it difficult to make inferences about causality. Thirdly, in this study, socio-demographic variables, risk for internet addiction, findings reported to be related to cyber bullying and victimization are limited to what measurement tools based on self-report measure. Fourthly, it is observed that the majority of the influence sizes indicating the extent to which the independent variables have an effect on cyber bullying and victimization were at low and middle levels. It can be stated that the findings obtained from this study despite its limitations will contribute to the understanding of the relationship between the risk for internet addiction and cyber bullying and victimization and to works aiming to design intervention programs to prevent cyber bullying and victimization in adolescents (Peker, 2013, 2014; Seçer, 2014; Şahin & Akbaba, 2010; Şimşek & Palancı, 2014; Tanrıkulu, Kınay & Arıcak, 2013). Lastly, it can be suggested that the qualitative data obtained from this study to be supported with further qualitative studies and large-sample Turkey-wide studies examining cyber bullying and victimization.

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