The Use of the Internet among Middle School Students: Risky Behaviors and Opportunities

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Abstract

The increasing opportunity to access the Internet from home has opened the way for a number of positive changes in our lives, while at the same time raising the specter of a variety of risks. This study examined middle school students' computer and Internet usage in terms of time spent, perceived levels of proficiency, manner of home usage and risky Internet behavior. It also looked at how the gender of the students, the level of parental education, time spent online and level of the Internet proficiency affected students' risky behavior. A significant proportion of children were found to spend long hours on the computer and to consider themselves at an intermediate or advanced level of proficiency with regard to computer and the Internet usage. Approximately half of the students surveyed connected to the Internet in their own rooms. Similarly, close to half of the students surveyed were subject to various types of parental limitations. Although scores for risky Internet behavior were not markedly high, students did exhibit certain types of riskybehavior. Gender and mother's level of education were found to correlate with risky Internet behavior. Overall, the study findings suggest that students, families and different institutions all have certain responsibilities with regard to online risks and those solutions to related problems require the collaboration of all stakeholders.

Keywords: Internet use styles, risky Internet behavior, gender, parents' level of education

1. Introduction

The recent entrance of technology into every sphere of life has led to the development of a number of new concepts, including that of "digital natives." The term, credited to Marc Prensky (2001), is used to describe those generations who make extensive use of digital technology, especially the Internet, in their daily lives and who are able to converse in the language of the digital environment as fluently as their mother tongue. Digital natives have a strong command of the Internet and can use it for purposes such as accessing information, production, entertainment, communication and social interaction. The increased opportunities for connecting to the Internet from home and at school can be considered to have played an important role in the emergence of this new type of individual. According to the Turkish Institute of Statistics' April 2012 "Report on Household Use of Information Technology among Individuals Aged 16-74," 47.2% of Turkish households have access to the Internet (TÜİK, 2012).

The highest computer and Internet usage rate is in the 16-24 age group. The Internet is most frequently used for social networks and it is most commonly used at home with 78.8% (TÜİK, 2014). Individuals aged 16-74, 78.8% of Turkish households have access to the Internet The number of broad band subscriptions in Turkey was reported to have increased from 6 million in 2008 to 18.3 million in the second quarter of 2012, and at the same time, a significant number of the Internet subscriptions were registered for portable computers (1,859,250) and mobile phones (8,790,698) (MAK Report, 2012). In addition, EU Kids Online reported 60% of children in Turkey have Internet access at school and 52% have access at home (Haddon & Livingstone, 2012).

On one hand the intensive use of the Internet contributes to user's lives, on the other hand it brings along several problems that might be encountered during the course of use. For example, online activities may lead to various physical, emotional, and psychological damages for users (Slavtcheva-Petkova, Nash & Bulger, 2015). While extensive use of the Internet can provide certain advantages to users, it also opens up the possibility of encountering various types of problems on line. Internet use in Turkey entails risks related to adult content, malicious software, fraud, sharing of personal information, cyber bullying and introductions to strangers (UNICEF, 2011), and children are especially susceptible to such risks. Children have a special place among those who suffer from this situation. Problems encountered by children can be classified as "technical damages" including virus infection to the computer, not being able to prevent spywares to have access to the computer, and breaking the computer; "physical, sociological and psychological damages" including access to harmful content and contact with malicious people; and "vital damages" manifesting as abuse (Canbek & Sağıroğlu, 2007).

Children may also be subjected to technical, physical, social and psychological violence when using the Internet and computer technologies (Çelen, Çelik & Seferoğlu, 2011). According to MAK Report (2012), children may face situations such as cyber bullying, child abuse, playing computer games excessively and in a harmful way, interaction with strangers online or offline. Naturally, families are concerned with regard to harmful aspects of the Internet. According to the findings of a study conducted in 27 European countries among children ages 6-17 years, families are most worried about children viewing sexually explicit material, becoming victims of sexual violence, accessing risky websites, becoming victims of cyber bullying and experiencing social isolation (Eurobarameter, 2008).

According to the project report for EU Kids Online, a project that reached 25,000 students between the ages of 9-16, Turkey is classified as a country with a "low level of Internet proficiency" and the "low risk" group. The report found that 36% of children in Turkey are connected to the Internet for more than 1 hour per day, 52% access the Internet from home and a similar proportion connect to the Internet from Internet cafes. Moreover, the report found Turkey to be at the bottom of the list

of European countries in terms of Internet proficiency of both children and families. In spite of this, the report also found those children and their families considered themselves to have a high level of knowledge and that mothers had sufficient proficiency to be able to help their children. More than half of the children were found to belong to social networking sites, despite the fact that membership is prohibited among children less than 13 years of age. In addition, Turkish children were found to share personal information (e.g. mobile phone numbers, home addresses) over the Internet at a rate above the average for European countries, 9.6% were found to have had a disturbing or regrettable experience and 15% were found to have visited web sites with harmful content. Moreover, families were found to have a low level of awareness with regard to the risky Internet behavior of their children (Haddon & Livingstone, 2012).

Risky Internet Behavior

The literature mentions various types of risky Internet behavior, including sharing e-mail addresses, photographs and other personal information; coming into face-to-face contact with individuals met online; online abuse; accessing sites with sexual content; receiving pornographic messages; entering adult chat rooms; and deactivating filter programs (Dowell, Burgess & Cavanaugh, 2009; Mitchell, Finkelhor & Wolak, 2003). De Moore et al. (2008) mentions 3 types of Internet risks, namely "content, communication and commercial" with content risks defined as both "adult content and violent, racist and malicious photographs and text" as well as "provocative content and misinformation"; communication risks defined as "cyber bullying, sexual advances and security threats; and commercial risks defined as commercial exploitation of children and collection of their personal information.

Reasons for engaging in risky Internet behavior have been found to include excessive time spent online, life dissatisfaction and a wish for excitement (Livingstone & Helsper, 2007). In a study conducted with 10 thousand 4th 6th grade students between 2005-2009, the significance of online risks was highleghted and it was pointed out that these risks increased considerably each year (Valcke, De Wever, Van Keer & Schellens, 2011). In a literature review including 271 experimental studies conducted with individuals under the age of 18 between 1997-2012, it was stated that studies on the risks and harms of the Internet were insufficient and these studies concentrated on certain areas such as cyber bullying (Slavtcheva-Petkova et al., 2015). In a study conducted with 1,000 children from 25 European countries between the ages of 9-16, it was found that social network users are more frequently exposed to online risks (Staksrud, Ólafsson & Livingstone, 2013). Considering the prevalence of social network use in this age group, this situation seems to be quite worrying.

When the literature on the subject is reviewed, it can be seen that there are various studies on the place of computer and the Internet in lives of secondary school

students (Altuğ, Gencer & Ersöz, 2011; Durmuş & Kaya, 2008; Gökçearslan & Seferoğlu, 2005; Haddon & Livingstone, 2012; Vigdor & Ladd, 2010; Zhou et al., 2012). By the way there are differences in the use of information technology in the school and home environments in terms of time spent and manner of use (Van Braak & Kavadias, 2005). In the former, when there is a certain level of supervision, little is understood about how children use the Internet at home; thus, in terms of child development, it is important to clearly identify how children use the Internet at home, how much time they spend to this end and what kind of risky behavior they engage in. For this reason, the present study examined the home use of information technology and types of risky Internet behavior among middle school students by asking the following 4 research questions:

1. How much time does the middle school students in Turkey spend using information and communication technology (ICT) and what is their level of proficiency?

2. In what manner and for what purposes do the middle school students in Turkey use computers and the Internet at home?

3. What types of risky Internet behavior do the middle school students in Turkey engage in?

4. How are the gender, parental level of education, time spent on line and level of Internet proficiency variables related to risky Internet behavior among the middle school students?

2. Method

This descriptive study aimed to identify how students use ICT at home and what types of risky Internet behavior they engage in by gathering data on students' perceptions using a questionnaire and scale developed by the researchers. In addition to providing descriptive statistics (frequency, percentage, mean), data was analyzed using the Mann-Whitney U test, Kruskal-Wallis test and factor analysis.

Study Group

The study was conducted using convenience sampling. A total of 707 students (Girls: n=329, 46.53%; Boys: n=378, 53.47%) who attended different schools in various provinces in Turkey (i.e. Ankara, Bolu, Bursa, Mersin, Istanbul, Ordu) during the 2012-2013 school year voluntarily participated in the study. Of these, 9.05% (n=64) were in 6th grade, 41.44% (n=293) were in 7th grade and 49.50% (n=350) were in 8th grade – i.e. in the second level of the new education system known as '4+4+4'. In terms of parental education, 41 mothers of the study participants (5.80%) were illiterate, 323 (45.69%) were primary school graduates, 156 (22.07%) were middle school graduates, 147 (20.79) were high school graduates, 36 (5.09%) had university degrees and 4 (0.57%) had post-graduate degrees, whereas

17 fathers of the study participants (2.40%) were illiterate 193 (27.40%) were primary school graduates, 188 (26.59%) were middle school graduates, 205 (29.00%) were high school graduates, 95 (13.44%) had university degrees and 9 (1.27%) had post-graduate degrees.

Data Collection Tool

Data on time spent and level of proficiency at using ICT, use of computers at home and Internet behavior were collected using a questionnaire developed by the researchers based on a tool used by Eroğlu (2011) to measure the risky use of Internet communication tools among university students. Eroğlu's original questionnaire, which included 22 items rated on a Likert-type scale of 1-4 (never, seldom, sometimes, often), was examined by 3 experts to determine its appropriateness for this study. Based on their review, only 19 items were considered appropriate and included on a questionnaire, along with a rating scale of 1-5 (never, seldom, sometimes, often, always).

Rotated factor loading was performed to determine the suitability of the data collection tool for the study population. Prior to analysis, adequacy of sampling was determined by performing KMO (95.7) and Bartlett's test for sphericity ($\chi 2 = 11278$, 27, p.=.000). Two factors were identified, all items were weighted, and based on the results of weighting, Items 1, 4 and 5 were removed, and the analysis continued.

Table 1. Results of Factor Analysis of the Data Collection Tool (Weighting Factors)

	Items	Weights	
		1	**2**
1.	Q15	.835	.185
2.	Q16	.830	.176
3.	Q09	.825	.198
4.	Q12	.813	.248
5.	Q11	.791	.259
6.	Q08	.786	.261
7.	Q02	.778	.199
8.	Q18	.776	.323
9.	Q10	.759	.180
10.	Q03	.756	.286
11.	Q07	.743	.303
12.	Q17	.739	.341
13.	Q14	.718	.364
14.	Q13	.680	.274
15.	Q06	.160	.864
16.	Q19	.324	.741

Whereas the first factor explained 53.31% of variance of the 16 items of the questionnaire, the one factors accounted for 61.45% of variance (Table 2). The 16 items together had a Cronbach Alpha reliability value of .95, compared to a value of .72 for Eroğlu's (2011) original questionnaire.

Table 2. Factor Analysis of the Questionnaire

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	9.83	61.45	61.45	9.83	61.45	61.45

Data collection and analysis

Data was collected by sharing the survey questionnaire and instructions with ICT instructors online using Google Drive. Reliability and validity of the Risky Internet Behavior scale was checked according to Eroğlu (2011). Factor analysis was conducted to determine the suitability of the scale of risky Internet behavior to the study population. Descriptive statistics (e.g. frequency, percentage, mean) were used to analyze the data collected in relation to the first three research questions, whereas relationships between variables were explored using Mann-Whitney U and Kruskal-Wallis tests.

3. Findings

Middle School Students' Use of ICT in terms of Time Spent and Level of Proficiency

The first question of this study was formed as "How much time do the middle school students in Turkey spend using ICT and what is their level of proficiency?" The findings related to this question are presented in Table 3.

As Table 3 shows, close to two-thirds (62.38%) of the students reported spending 1-3 hours per day using the Internet, compared to 23.76% of the students who used the Internet for less than 1 hour per day and 13.86% who used the Internet for more than 4 hours per day. While these findings do not appear to be high, they need to be considered in light of the previous studies suggesting that more than 3 hours per day spent using the computer and the Internet could be a sign of addiction/dependence (Thadani & Cheung, 2011).

In terms of computer and Internet proficiency, more than half of the students considered themselves to have an intermediate level of proficiency at both computer (58.27%) and Internet (54.40%) use, whereas close to one-quarter considered themselves to have an advanced level of proficiency at both computer (22.4%) and

the Internet (24.75%) use. Topal and Geçer (2012) also found middle school students in Turkey considered themselves to be highly proficient in terms of Internet usage; however, according to the findings of the EU Kids Online project, whereas children in Turkey considered themselves to have a high level of knowledge, in fact, their level of Internet proficiency was the lowest in Europe (Haddon & Livingstone, 2012).

Table 3. Middle School Student's Use of ICT in terms of Time Spent and Level of Proficiency

Questions	Items	N	%
On average, how much time do you spend on the Internet each day?	Less than 1 hour	168	23.76
	1-3 hours	441	62.38
	4-6 hours	66	9.34
	7-9 hours	13	1.84
	10+ hours	19	2.69
How would you rate your level of proficiency at using the computer?	I can use the computer at a beginner's level.	139	19.66
	I can use the computer at an intermediate level.	412	58.27
	I can use the computer at an advanced level.	156	22.07
How would you rate your level of proficiency at using the Internet?	I can use the Internet at a beginner's level.	149	21.07
	I can use the Internet at an intermediate level.	383	54.17
	I can use the Internet at an advanced level.	175	24.75
	Total	707	100

Middle School Student's Home Use of Computers and the Internet (Style and Aims)

The second question of this study was: "In what manner and for what purposes do the middle school students in Turkey use computers and the Internet at home?" The findings related to this question are presented in Tables 4 and 5.

As Table 4 shows, when asked who they received help from most often when using the computer and Internet at home, 22.21% reported receiving help from a sibling and 14.14% reported receiving help from their fathers. However, more than half of all students (57.57%) reported that they did not receive help from anyone when they used the computer/Internet at home. Previous studies have also reported that siblings are the ones who most often provide help as well as control for each other when they use computers at home (Bumpus, & Werner, 2009; Henke & Fontenot, 2011).

Table 4. How Middle School Students Use the Computer and the Internet at Home

Item	Variables	F	%
Who provides the most help when I use the computer and Internet at home	My siblings	157	22.21
	My friends	31	4.38
	My father	100	14.14
	My mother	12	1.70
	No one	407	57.57
Reason(s) for having a computer at home (More than one response can be selected)	To access information whenever I need to	409	57.85
	To help with my schoolwork	457	64.64
	To use Internet services	108	15.28
	To use office programs	70	9.90
	To listen to music, find photos and watch videos	167	23.62
	To play games	202	28.57
	To use educational CDs	134	18.95
	Other	97	13.72
Location of your home computer	My bedroom	332	46.96
	Sitting room	87	12.31
	Study	52	7.36
	Bedroom of another family member	46	6.51
	Living room/guest room	43	6.08
	Other	147	20.79
In which area does your family limit you the most?	Limits on the Internet-sites visited	141	19.94
	Financial limitations	42	5.94
	Time limits	231	32.67
	Programs (games, chat, social media)	103	14.57
	I am not subject to any limits.	134	18.95
	Other	56	7.92
	Total	707	100

When asked the reason for having a computer at home, the majority (64.64%) of the students said it was 'to help with schoolwork', which is in line with the findings (70.6 %) of a previous study conducted by Karakus, Inal, & Cagiltay (2008) among high school students. 79 % of the families also reported that "their children used computers to complete their homework" (Ortiz, Green & Lim, 2011). The fact that the majority of the students cited helping with their education as the main reason for having a computer at home is a positive finding. Other reasons cited by the participants in the present study included 'to access information whenever I need to'(57.85%), 'to play games' (28.57%) and 'to listen to music, look at pictures or watch videos' (23.62%). With regard to the location of the computer students use at home, close to half of the students said they had a computer in their own bedroom (46.96%), whereas 20.79% said they used a computer in someone else's room,

12.31% said they used a computer in the sitting room and 7.36% said in a study. A previous study reported that on average, 49% of the students in Europe can connect to the Internet from their own room (Haddon & Livingstone, 2012). In terms of limitations families place on computer and Internet use at home, the students reported limitations on the amount of time they are allowed to spend on the computer/Internet at home (32.67%) as well as limitations on which sites they can visit (19.94%), which programs they can use (14.57%), physical (5.94%) and 'other' limitations (7.92%). However, close to one-fifth (18.95%) of the students said their families placed no limitations on their computer/Internet usage. Overall, 37% of European families place some kind of restriction on Internet use (Haddon & Livingstone, 2012). The findings of the present study suggest that students should be monitored when they use the Internet at home, but in such a way that they are not aware that they are being monitored. It is recommended that students should browse the Internet under their families' guidance (Lee & Chae, 2007).

Table 5. How Middle School Students Spend Their Time on the Computer/the Internet at Home

	Never		Seldom		Sometimes		Often		Always			Total	
	f	%	f	%	f	%	f	%	f	%	$\overline{X}$	f	%
How often do you play online games at home?	278	39.32	155	21.92	132	18.67	67	9.48	75	10.61	2.30	707	100
How often do you post to a blog at home?	378	53.47	148	20.93	102	14.43	45	6.36	34	4.81	1.88	707	100
How often do you access social media (e.g. Facebook, Myspace) at home?	193	27.30	83	11.74	114	16.12	132	18.67	185	26.17	3.04	707	100
How often do you use the Internet at home to access information for educational purposes?	133	18.81	86	12.16	118	16.69	209	29.56	161	22.77	3.25	707	100
How often do you use Internet chat features at home?	158	22.35	170	24.05	162	22.91	133	18.81	84	11.88	2.74	707	100
How often do you surf the Internet for entertainment (music, pictures, film, comedy, jokes, etc.)?	177	25.04	108	15.28	167	23.62	126	17.82	129	18.25	2.89	707	100

As seen in Table 5, close to two-thirds of the students (61.68%) reported playing online games, with significant proportions playing games frequently (9.48%) or always (10.61%). While more than half of the students reported never "blogging" at home, 6.26% reported frequently using a blog and 4.81% reported always using a blog. Less than one-third of the students (27.30%) reported never using social media at home, whereas 18.67% reported frequently using social media at home and 26.17% reported always doing so.

With regard to using the Internet at home to search for information for educational purposes, 18.81% reported never doing so; in contrast, 29.56% reported frequently using the Internet at home to search for information for educational purposes and 22.77% reported always doing so. Students also reported using online chat tools at home, with 11.81% saying they always used chat features, 18.81% saying they used chat features often, and only 22.35% saying they never used online chat tools at home. With regard to using the Internet at home for entertainment purposes, although 25% of students reported never doing so, 17.82% reported going on line for entertainment purposes often and 18.25% reported always doing so. In sum, mean scores indicate that the main reasons students use the Internet at home are to search for information, to use social media and for entertainment.

The Types of Risky Internet Behavior Middle School Students Engage in

The third question of this study was formed as "What types of risky Internet behavior do the middle school students in Turkey engage in?" The findings related to this question are presented in Table 6.

Table 6. Distribution of Middle School Students' Risky Internet Behavior

	Never		Seldom		Sometimes		Often		Always			Total	
	f	%	f	%	F	%	f	%	f	%	$\overline{x}$	f	%
I send my photo over the Internet to people whom I don't know.	630	89.11	28	3.96	26	3.68	11	1.56	12	1.70	1.23	707	100
I offer to meet people that I don't know online.	610	86.28	34	4.81	27	3.82	17	2.40	19	2.69	1.30	707	100
I publish my photograph on social media websites (e.g. Facebook).	396	56.01	115	16.27	96	13.58	51	7.21	49	6.93	1.92	707	100
I visit websites that encourage violence and illegal activities.	621	87.84	34	4.81	28	3.96	12	1.70	12	1.70	1.25	707	100

I belong to groups with violent content on social media websites.	634	89.67	29	4.10	18	2.55	13	1.84	13	1.84	1.22	707	100
I visit websites with sexual content.	650	91.94	12	1.70	24	3.39	10	1.41	11	1.56	1.19	707	100
I receive e-mails with sexual content.	630	90.38	21	2.97	25	3.54	9	1.27	13	1.84	1.21	707	100
I visit websites whose aim is to humiliate a particular group.	621	87.84	34	4.81	28	3.96	12	1.70	12	1.70	1.25	707	100
I belong to on-line groups that were founded with the aim of humiliating a particular group.	628	88.83	35	4.95	24	3.39	8	1.13	12	1.70	1.22	707	100
I visit websites relating to weapons and explosives.	613	86.70	42	5.94	22	3.11	14	1.98	16	2.26	1.27	707	100
I let others know my user name and password for my personal pages in virtual worlds like MSN, Facebook, YouTube and MySpace.	591	83.59	65	9.19	23	3.25	12	1.70	16	2.26	1.30	707	100
I visit websites that encourage suicide.	646	91.37	25	3.54	17	2.40	11	1.56	8	1.13	1.18	707	100
I visit websites that encourage drug use.	657	92.93	16	2.26	13	1.84	11	1.56	10	1.41	1.16	707	100
I share secrets over the Internet.	623	88.12	44	6.22	15	2.12	14	1.98	11	1.56	1.23	707	100
I enter personal information on websites in order to win free prizes, games, etc.	619	87.55	44	6.22	16	2.26	14	1.98	14	1.98	1.25	707	100
I download illegal material (mp3s, unlicensed programs, hack programs, etc.)	528	74.68	81	11.46	39	5.52	22	3.11	37	5.23	1.53	707	100

As Table 6 shows, some of the students engage in a variety of risky Internet behavior, including sharing photographs over social network sites (43.99%), downloading illegal material such as mp3s, unlicensed software and hack programs (25.32%) and sharing user names and passwords to personal web pages on various

online platforms (16.41%). Furthermore, small proportions of students also reported visiting sites related to explosives and weapons (13.72%), sites that promote violence and illegal activities (12.16%) and sites with sexual content (8.06%), and 13.72% and 9.62% of the students, respectively, reported meeting strangers online and receiving e-mails with sexual content.

When mean scores for risky Internet behavior are examined, the following behaviors are found to be most frequent: sharing photographs on social networking sites (1.92); downloading illegal material (1.53); offering to meet strangers on line (1.30); sharing user names and passwords to personal web pages on various virtual platforms with others (1.30); and visiting websites related to explosives and weapons (1.27). Overall, the mean score for risky Internet behavior – 1.29 – may be considered to be relatively low.

The Types of Risky Internet Behavior Middle School Students Engage in

The third question of this study was: "How are the gender, parental level of education, time spent on line and level of the Internet proficiency variables related to risky Internet behavior among the middle school students?". Data related to this research question were found to have a non-normal distribution according to Kolmogorov-Simorov test results. Therefore, data were analyzed using non-parametric testing. Table 7 shows the results of Mann-Whitney U test regarding the relationship between the gender of the students and risky Internet behavior.

Table 7. Mann-Whitney U Test Results for Risky Internet Behavior, by Gender

Gender	N	Mean	Total Points	U	p
Female	329	296.83	97658.50	43373.5	.00
Male	378	403.76	152619.50		

Results found a significant difference in risky Internet behavior scores of boys and girls (U= 43375.5, p< 0.05), with boys having higher scores (403.76) than girls. The results of Erdur-Baker (2010) are in line with the results of the present study showing that boys are more likely to be victims of cyber bullying than girls.

Table 8. Kruskal-Wallis Results for Risky Internet Behavior, by Mother's Level of Education

Mother's Level of Education	N	Mean	Sd	$\chi 2$	p
Illiterate	41	273.06	5	28.182	.000
Primary school	323	339.83			
Middle School	156	342.47			
High School	147	388.37			
University	36	463.04			
Post-Graduate	4	532.88			

Mothers' level of education was found to have a significant effect on students' risky Internet behavior scores (χ2 (sd=5, n=707) =28.182, p<.05), with scores increasing as mothers' level of education rises. In other words, mothers' level of education negatively correlates with students' risky Internet behavior scores. This may be attributable to a natural connection between increases in maternal education levels and increases in children's ability (as well as opportunity) to use the Internet or to the fact that mothers with higher education levels spend more time at work and have less time available to spend with their children.

Table 9. Kruskal-Wallis Results for Risky Internet Behavior, by Father's Level of Education

Father's Level of Education	N	Mean	Sd	χ2	p
Illiterate	17	349. 26	5	7.155	.209
Primary school	193	334.27			
Middle School	188	339.16			
High School	205	377.23			
University	95	369.08			
Post-Graduate	9	407.72			

Fathers' level of education, on the other hand, was not found to have a significant effect on students' risky Internet behavior scores (χ2 (sd=5, n=707) =7.155, p>.05). This differs from what might have been expected, namely that children whose fathers had high levels of education would use the Internet more sensibly and exhibit less risky behavior, especially since, as seen in Table 4, fathers are the second-most frequent person to provide students with help using the Internet. Moreover, Liu et al. (2012) found family behavior and Internet behavior to have an effect on the risky Internet behavior of youth, with students whose fathers have a low level of education exhibiting higher levels of risky Internet behavior.

Table 10. Kruskal-Wallis Results for Risky Internet Behavior, by Grade

Grade	N	Mean	sd	χ2	p
6th	63	281. 07	2	11.666	.003
7th	293	348.87			
8th	351	371.37			

Scores for risky Internet behavior varied according to the grade level of participating students (χ2 (sd=2, n=707) =11.666, p< .05), with mean scores for risky Internet behavior increasing with increasing grade levels. This is an indication that although students may gain more experience using the Internet, this does not mean that they gain more insight into how to use the Internet appropriately. Considering that it could be expected that students in higher grades would have a greater

awareness of risks associated with the Internet, this finding needs to be examined further. It could be that there is a connection between this situation and the discontinuation of the course on Information and Communication Technology (ICT), which in 2006-2007 was given for 1 hour per week in Grades 1-8 and in 2007-2008 increased to 2 hours per week for Grades 4-5. However, in the 2010-2011 academic year, ICT education was limited to a 1-hr per week elective course for Grades 6-7-8 (MEB, 2010), and it continued to be offered in this manner through 2012-2013, which is when the present study was undertaken. A review study conducted by Öztürk and Yılmaz (2011) found that 92.3% of the teachers reported that the course could not be taught effectively as an elective, and 91.1% said that the course aims could not be achieved in this way. Beginning in 2013, in addition to being offered as an elective for Grades 7-8 (Board of Education, 2013), the ICT class was included in the curricula as a required course for 2 hours per week for Grades 5-6.

4. Discussion

According to the findings of this study, a large proportion of students spend several hours per day using the Internet, and the number of students who spend very large amounts of time using the Internet should not be underestimated. Spending extensive amounts of time on the Internet leaves students open to dependence. Students consider themselves to possess intermediate or advanced levels of computer and Internet proficiency. However, this is not considered to be an accurate reflection of reality (Haddon & Livingstone, 2012). The main reasons students want to have a computer at home are "to help with schoolwork", followed by "to be able to access information whenever necessary" and "to play games". These results are significant in terms of how students view the computer as a tool for accessing information.

With regard to students' computer usage, most students receive help from a sibling or from their fathers, and close to half of the students have a computer and can access the Internet in their bedroom. In other words, half of all students use the Internet in a space considered to be their private space, as is generally the case in Europe. For this reason, families need to be informed about this subject and be familiar with the positive and negative aspects of the Internet. Most importantly, families should place limits on both the amount of time students spend on the Internet and the sites they can access. Students reported that their main reasons for using the Internet at home were to search for information for educational purposes, for social networking and for entertainment purposes. The finding that the students used the computer to search for information for educational purposes is compatible with the aim of having a computer available at home.

Student's scores for risky Internet behavior were not particularly high (1.29 out of 5). According to the EU Kids Online project, Turkey is a "low risk" country in this regard, which is a welcome finding. However, both children and families were also found to have the lowest level of computer proficiency in Europe, and families

were found to have a low awareness of risky web sites (Haddon & Livingstone, 2012). According to the findings of the present study, some students admitted to have risky Internet behaviors that could result in serious problems: These behaviors are in the form of: "I publish my photograph on social media websites (e.g. Facebook). "I offer to meet people that I don't know online.", "I let others know my user-name and password for my personal pages in virtual worlds", "I visit websites relating to weapons and explosives." These findings are in line with those reported by the EU Kids Online project (Haddon & Livingstone, 2012) and suggest that students could benefit from being better informed about risky Internet behavior. Turkey has a number of laws that relate to Internet-related risks children face. Due to the multi-faceted nature of the issue, it is obvious that there is no single way of resolving Internet risks. Law No 5651, which came into effect in 2007, makes it possible to impose various limits on service and content providers, including closure of websites (TBMM, 2007). In 2011, the Institute of Information Technologies and Communication established a set of principles and procedures related to Internet security. At the same time, the "Child and Family Profile Criteria Working Group" was established with the participation of academic experts, sectorial representatives and representatives of relevant institutions. Moreover, a variety of choices are available in terms of secure Internet profiles that use different filters for individuals and families (BTK, 2011).

The Ministry of Youth and Sports launched the project "Safe Internet and Social Media Education", with the goal of reaching 100,000 young people. A report on a similar program implemented by the Singapore Family Internet Advisory Board (PAGI) that reached 50,000 families found that having families involved in the process and raising their awareness can have a positive effect on risky Internet behavior of students. Moreover, the report recommends that solutions be developed jointly by the State, the society and the Internet service providers (Voon & Ong, 2003). A study by Korkmaz (2010) found that a peer-training program conducted with an established curriculum on computer and Internet usage at school had a positive effect on students' Internet use habits.

Scores for risky Internet behavior varied according to gender, mothers' level of education and grade in school, with significantly higher scores found for boys, children whose mothers had a high level of education and children in higher grades in school. Boys may require more attention while on line, given that they were found to exhibit more risky Internet behavior than girls. The increase in risky Internet behavior observed as the mothers' level of education increases may be connected to mothers with more education tending to work and thus having less time to spend with children and monitor their Internet use. The fact that students' risky behavior increases as students enter higher grades and become more proficient in using the Internet is a noteworthy finding as well. Despite the fact that fathers provide more help to students than mothers with regard to computer usage, fathers' level of education was not found to have a significant effect on students' risky Internet behavior.

5. Conclusion

However, home usage occurs more under family supervision. In order to find solutions to problems related to Internet use, all stakeholders need to have a share in decision making and responsibility. In this sense, raising parents' awareness about risky Internet behavior can have a positive effect. Conducting peer-to-peer training with students who have themselves experienced the consequences of the risky Internet behavior may also be helpful. Finally, future studies may be conducted to examine how education and other precautions affect the risky Internet behavior of students at different grade levels.

Studies on effects of various measures and trainings on risky Internet behavior according to years should be beneficial. Considering that children's Internet use on smart phones and tablet computers are much more concealed, it should be beneficial to conduct studies on risky Internet behavior on these devices. In this context, it is recommended that in-dept information is provided with phenomenological studies. The research had three limitations. The first one was that the sample population did not cover all regions of Turkey. Instead, it was chosen only from various regions. Similarly, he study was carried out only in primary schools located in 6 different provinces. Thus, the results do not represent the whole student population it was chosen to represent. The second limitation was that the 6th graders were not sufficiently included in the study as ICT lessons are provided only for 7th and 8th grades in Turkey. The 6th graders constitute only 9.05% of the sample population. Thus, the results do not represent all middle schools students. The third limitation was that the research was only quantitative.

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