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Facebook Security Awareness of Secondary School Students*

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ABSTRACT

Nowadays, social networks and usage are spreading rapidly. Social networks have become an indispensable part of communication. They are platforms that people use to communicate with each other online and share their beautiful moments. The number of social network users is increasing day by day. The most common social network known is Facebook. This study was conducted to investigate the awareness of secondary school students about Facebook security based on the age limit of 13 years of age using Facebook. In the survey, 266 users answered the subject matter about Facebook usage. The research was conducted in two different state schools in Istanbul. In the research, the quantitative survey method was used. According to the safety awareness of Facebook for secondary school students is found at a high level. There was no statistically significant difference between male and female students' Facebook security awareness. Children's level of awareness of Facebook does not vary according to the income levels of their families..

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INTRODUCTION

Technology covers the tools and equipment that people use to facilitate their daily activities and to increase the efficiency they receive (Günay & Arıduru, 2001). Technology affects individuals and society by providing products that affect quality of life (Bacanak, Karamustafaoğlu & Köse, 2003). Avoiding the use of social media in the digital age can lead to psychological problems (Sternberg et al., 2020). The concept of social media, especially referred to with web 2.0 technology, is defined as a whole of internet-based services where individuals can connect with other people, create their own list of links and follow the posts made by their connections, to be placed in a system that is open to the public or semi-open, with certain rules (Ellison, Steinfield, & Lampe 2007). "In today's internet age, the number of online communities has grown rapidly and people prefer online communication for communication and socialization. Thus, social networking sites have become the most widespread web-based sector in the world (Çelebi, 2014: 550).

Internet is undoubtedly the most important communication tool that has become the basic step of mass media, forming the backbone of communication and providing instant communication. Internet usage has increased with the development of Web 2.0 technologies. Thanks to the computer network, which we call the Internet, we have been able to reach a lot of information in the world in a short time.

The rapid spread of the information brought the following effect; the most important transformation point of the internet has been with the development of web 2.0 technologies. (Karagöz, 2013: 132). However, the information and reality shares reached are not correct in every information on the internet; it has made it compulsory for its users that the information should be investigated. Nevertheless, security has come to the forefront and the necessity of providing security in internet use has been demonstrated in many studies. Users were more passive in web 1.0 periods of the internet. They were in the form of ready-made receivers of the information revealed. The information transmission aspect, or rather the communication aspect, was unilateral. However, with the development of the technology we call web 2.0, users have also become more active. These internet environments, which have become a communication network with mutual interaction, have started to be called social networks. The contents of social networks have been created entirely interactively by users. According to Karadoğan Doruk et al. (2014: 213), social media is a social sharing-beyond-social sharing and discussion environment where people share their experiences through texts, videos, images and various other technological elements. "Internet technology forms the basis of Social Media" (Kırık, 2014: 274). When we say social media; Youtube, Facebook, Twitter, Instagram etc. sites like. In recent years, the age of using social media has also decreased considerably, and today it has become platforms for children to enjoy. Although the age of social media use has a certain limit, children have ignored this limit and have opened an account for them on each platform. In fact that social media has become a market even in sales and marketing. Large companies look for new colleagues who can introduce themselves in this field. The best platforms for simultaneous communication are managed through social networks.

Facebook

Facebook is a widely accepted social network all over the world (Manickam, Selvam & Ahrumugam, 2020). People use Facebook, which is the most widely used social network, to maintain existing relationships, meet new people, spend time, express themselves and for teaching purposes. Facebook can contribute to intercultural development through information sharing (Vurdien & Puranen, 2020). About eighty percent of Internet users use Facebook and access Facebook on average eight hours a day (Greenwood, Perrin & Duggan, 2016). Many people around the world frequently engage in intense social interaction on Facebook by posting updates or following updates of others (Brailovskaia et al., 2020).

The use of social sites like Facebook is becoming more and more common in today's life (Sindermann, Duke & Montag, 2020). Facebook is a social networking site where people can share

photos, personal information and friends in general (Cabada et al., 2009). Facebook has the highest number of users among all social networks, and has more than 2.2 billion monthly active users and more than 1.5 billion active users worldwide (Rajesh & Rangaiah, 2020). These social networks, which we benefit from with the influence of the internet and developing technology, may have negative consequences from time to time. What we mean by is that these digital environments are also used by malicious people. This led to the need to improve security and privacy settings. Since Facebook was founded in 2004, constant updates and improvements have been made in terms of privacy and security. Although the legal age limit required to become a member of Facebook is 13, it is thought that many students ignore this limit.

It is considered important that secondary school students comply with the security principles in the use of Facebook. It is thought that knowing the security principles to be considered while using Facebook will contribute to protecting them from the dangers in social media.

Purpose of the Research

The purpose of this study is to investigate the Facebook security awareness of secondary school students. In this context, the sub-goals are as follows:

1. What is the level of awareness of secondary school students' Facebook security?
2. Do the secondary school students' Facebook security awareness differ according to gender, monthly income, computer ownership, father and mother education level?

METHOD

This study, designed to determine Facebook security awareness of secondary school students, is designed in a survey model. The research is based on the singular survey model. The situation in the survey model is tried to be described as it is.

Study Group

The universe of the research is Pendik district, 700 students from Yıldırım Beyazıt Secondary School and Prof. Dr. Erol Güngör Secondary School attend who are 7th and 8th grades. 266 randomly selected students constitute the sample of the study. In the survey conducted, the forms of 7 students who were found to have deficiencies and errors were not included in the scope of the study and the forms of 259 students were analyzed. The characteristics of the working group are shown in the table below.

Table 1. *Demographic information of students*

Variables		n	%
Gender	Female	112	43.2
	Male	147	56.8
Multiple Facebook Accounts	Available	74	32.3
	Not	155	67.7
Father's Educational Status	Primary School	41	16.2
	Secondary School	72	28.5
	High School	105	41.5
	University	35	13.8

112 of the students participating in the study are female and 147 of them are male. It was seen that fathers the most of the secondary school students (41.5%) who participated in the research were high school graduates of their father at.

Research Instruments and Processes

The data collection tool consists of two parts. In the first part, demographic information (gender, family income, computer usage time, etc.) were collected. For the questions in the second part of the research, based on Facebook's Cybercrime Fighting page, what is paid attention to in terms of Facebook security were examined and a questionnaire was created afterwards.

There is a Social Media Security tab on the Anti-Cyber Crimes website of the Police Headquarters. The Facebook Security module was looked at as the subtitle of this tab and 15-item security topics were examined one by one (EGM, 2018). These items are as follows:

- Never share your password with anyone.
- Be sure to log out on the shared computers.
- Get to know your privacy settings.
- Check who you are sharing with before sharing anything.
- Learn how to block people.
- The fastest way to communicate with Facebook is by complaint tools.
- If you are the manager of a page or group, YOU CAN REMOVE the content shared by your fans.
- Do not click on suspicious links in your news source.
- Search the answers to your questions in the Facebook Help Center.
- Keep pages in your management safe.
- Check how your profile looks to other people.
- Think before you tag someone and check the content you are tagged in.
- Ask people to remove the content.
- Review your transactions breakdown.
- Check the status of the content you have complained on the Support Board.

Among the items given above, those that are not suitable to be asked to children under the age of 13 have been eliminated and the remaining 6 items have been converted into 3-point Likert type items and a questionnaire has been created.

Table 2. *Survey items*

Item 1	Does your mother, father or family know your Facebook password?
Item 2	I log out of my accounts I entered from computers used in common areas
Item 3	I know the privacy settings on Facebook
Item 4	I know how to block people who bother me
Item 5	I review how the content I post on my Facebook profile looks to others
Item 6	I can request that photos shared be deleted without my knowledge

In the questionnaire, Never (1), Sometimes (2) and Always (3) options were used. The highest average score that can be taken from the survey is 3, and the lowest average score is 1. The high average score indicates that students' Facebook security awareness is high, while the low average score indicates that the awareness is low.

Data Analysis

Criteria have been determined for the evaluation of the data collected within the scope of the research. The 2 values obtained by subtracting the minimum score (1) from the maximum score (3) that can be obtained while determining the criteria are divided into three equal parts. Points are divided into 3 equal parts (2: 3 = 0.67). By adding this value to the lowest score, the criteria are created.

Table 3. *Evaluation criteria of collected data*

Score range	Evaluation criteria
1.00-1.66	Low
1.67-2.33	Medium
2.34-3.00	High

An average of 20 minutes was given to the students for the questionnaire, which was sufficient to answer the questions. The collected data were tabulated in Microsoft Excel program and then transferred to IBM SPSS Statistics 21 and made ready for analysis. Independent sample t-test was conducted to determine whether Facebook security awareness varies according to gender and computer ownership. One-way analysis of variance was carried out to determine whether there is a difference between

Facebook security awareness according to family income and parent education level or not.

FINDINGS

The Distribution of the Students' Average Scores from Facebook Security Awareness

The distribution of the scores of the students participating in the research from their Facebook security awareness is given in Figure.1 below.

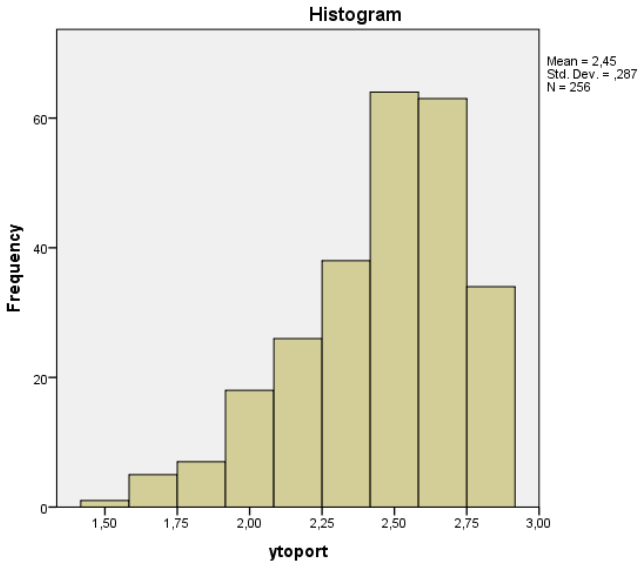

Figure 1. *Graphical view of the data in the research*

When Figure 1 is examined, it is seen that the arithmetic average of Facebook security awareness of secondary school students participating in the research is close to the normal distribution. As a result of the analysis, it was found that the skewness and kurtosis value was between -1 and +1. (Skewness = -,808; Kurtosis = ,255)

The distribution of the scores obtained from the measurement tool used in the research is shown in Table 4.

Table 4. *Average of the scores students received from each item*

	Never		**Sometimes**		**Always**		**Mean**	
	n	%	n	%	n	%	Mean	SD
Item 1	99	38.2	——	——	157	60,6	1,61	,49
Item 2	27	10.4	26	10,0	206	79,5	2,69	,65
Item 3	23	8.9	63	24,3	173	66,8	2,58	,65
Item 4	9	3.5	12	4,6	238	91,9	2,88	,42
Item 5	24	9.3	108	41,7	127	49,0	2,40	,65
Item 6	23	8.9	68	26,3	168	64,9	2,56	,65
Total Mean							2.45	.29

It is seen that the average is low by looking at Item 1 in Table.4. In terms of other items, it can be said that secondary school students' Facebook security awareness is high. When Table 4 is analyzed, it is seen that the secondary school students participating in the research mostly share their passwords with families.

Facebook Security Awareness Analysis by Gender

Independent sample t-test was conducted to determine whether the Facebook security awareness of secondary school students participating in the study varies according to gender.

Table 5. *Analysis of substances by gender*

	Gender	N	Mean	SD	t	p
M1	Female	112	1.57	.49	-1.155	.249
	Male	147	1.64	.48		

M2	Female	112	2.66	.67	-.463	.644
	Male	147	2.70	.63		
M3	Female	112	2.53	.67	-.938	.349
	Male	147	2.61	.63		
M4	Female	112	2.91	.34	.897	.370
	Male	147	2.86	.46		
M5	Female	112	2.49	.60	2.021	.044
	Male	147	2.32	.68		
M6	Female	112	2.57	.62	.249	.804
	Male	147	2.55	.67		
Mean	Female	112	2.45	.28	.215	.830
	Male	147	2.44	.29		

Facebook security awareness of secondary school students participating in the study does not change according to gender. However, in the Item 5, the awareness of the girls participating in the research, 'I review how the content I share on my Facebook profile looks like by others', has been found high.

Facebook Security Awareness Analysis According to Ownership of Computer

Independent sample t-test was conducted to determine whether the Facebook security awareness of the secondary school students participating in the research varies according to their ownership of the computer. The result of the analysis is given in Table 6.

Table 6. *Analysis of substances according to ownership of computer*

	Status	N	Mean	SD	t	p
M1	Not Owner	118	1.60	.49	-.379	.705
	Owner	136	1.62	.48		
M2	Not Owner	120	2.55	.75	-3.016	.004
	Owner	136	2.80	.52		
M3	Not Owner	120	2.45	.70	-2.902	.005
	Owner	136	2.68	.57		
M4	Not Owner	120	2.85	.46	-1.693	.092
	Owner	136	2.93	.32		
M5	Not Owner	120	2.40	.62	215	.830
	Owner	136	2.38	.67		
M6	Not Owner	120	2.59	.64	.586	.559
	Owner	136	2.54	.65		
Mean	Not Owner	118	2.40	.30	-2.477	.014
	Owner	136	2.49	.26		

Facebook security awareness of secondary school students participating in the research varies according to the status of having a computer. Accordingly, it can be said that those who enter the social networks from the computer have higher awareness of Facebook security than others.

Facebook Security Awareness by Monthly Income

The monthly income of the families of the children participating in the study is divided into 4 categories. Those who are lower than 1500 are grouped as low, those who are between 1501-2499 are moderately low, those who are between 2500-3500 are moderately high and those that are higher than 3500 are high. One-way analysis of variance was conducted to determine whether Facebook security awareness of the secondary school students participating in the study changed according to their monthly income. The result of the analysis is given in Table 7.

Table 7. *Facebook security awareness analysis according to the monthly income of the families of children*

		Sum of Squares	df	Mean of Squares	F	P
M1	Between Groups	.398	3	.133	.563	.640
	Within Groups	53.051	225	.236		
	Total	53.450	228			
M2	Between Groups	.526	3	.175	.424	.736
	Within Groups	94.353	228	.414		
	Total	94.879	231			
M3	Between Groups	1.036	3	.345	.827	.480
	Within Groups	95.240	228	.418		
	Total	96.276	231			
M4	Between Groups	.425	3	.142	.881	.452
	Within Groups	36.661	228	.161		
	Total	37.086	231			
M5	Between Groups	2.312	3	.771	1.834	.142
	Within Groups	95.787	228	.420		
	Total	98.099	231			
M6	Between Groups	1.895	3	.632	1.446	.230
	Within Groups	99.583	228	.437		
	Total	101.47	231			
Mean	Between Groups	.297	3	.099	1.187	.315
	Within Groups	18.781	225	.083		
	Total	19.078	228			

According to the monthly income of the families of the students who participated in the study, there was no significant difference between Facebook security awareness.

Facebook Security Awareness Analysis According to Father's Education Status

Father education levels of the students participating in the research are classified under 4 headings. These categories are; primary school, secondary school, high school and university. One-way analysis of variance was conducted to determine whether the Facebook security awareness of secondary school students changed according to their father's educational status. The result of the analysis is given in Table 8.

Table 8. *Facebook security awareness analysis table according to father's education level*

		Sum of Squares	df	Mean of Squares	F	P	Difference
M1	Between Groups	.540	3	.180	.750	.523	-----
	Within Groups	59.044	246	.240			
	Total	59.584	249				
M2	Between Groups	1.869	3	.623	1.457	.227	-----
	Within Groups	106.463	249	.428			
	Total	108.332	252				
M3	Between Groups	4.205	3	1.402	3.365	.019	a-d
	Within Groups	103.693	249	.416			
	Total	107.897	252				
M4	Between Groups	.554	3	.185	1.047	.372	-----
	Within Groups	43.889	249	.176			
	Total	44.443	252				
M5	Between Groups	.918	3	.306	.709	.548	-----
	Within Groups	107.556	249	.432			
	Total	108.474	252				
M6	Between Groups	.676	3	.225	.521	.668	-----
	Within Groups	107.743	249	.433			
	Total	108.419	252				
Mean	Between Groups	.614	3	.205	2.508	.060	-----
	Within Groups	20.078	246	.082			
	Total	20.692	249				

a-primary school b-secondary school c-high school d-university

As a result of the analysis made by looking at the education level of the father, there is a difference between the children of the parents who are primary school graduates and university graduates in Item 3. Facebook security awareness of those whose father is primary school graduate is higher. In other items, no statistically significant difference was observed between Facebook security awareness.

Facebook Security Awareness Analysis According to Mother's Education Status

The educational status of the secondary school students who participated in the research are given in 3 categories. These; primary school, secondary school and high school and above. Accordingly, one-way analysis of variance was conducted to determine whether Facebook security awareness changes. The result of the analysis is given in Table 9.

Table 9. *Facebook security awareness analysis table by mother's education status*

		Sum of Squares	df	Mean Square	F	P
M1	Between Groups	.521	2	.261	1.090	.338
	Within Groups	58.539	245	.239		
	Total	59.060	247			
M2	Between Groups	.114	2	.057	1.37	.872
	Within Groups	102.874	248	.415		
	Total	102.988	250			
M3	Between Groups	1.202	2	.601	1.437	.240
	Within Groups	103.706	248	.418		
	Total	104.908	250			
M4	Between Groups	.507	2	.253	1.456	.235
	Within Groups	43.143	248	.174		
	Total	43.649	250			
M5	Between Groups	.110	2	.055	.128	.880
	Within Groups	106.050	248	.428		
	Total	106.159	250			
M6	Between Groups	1.017	2	.508	1.179	.309
	Within Groups	106.896	248	.431		
	Total	107.912	250			
Mean	Between Groups	.053	2	.027	.329	.720
	Within Groups	19.818	245	.081		
	Total	19.871	247			

As a result of the analysis, the Facebook security awareness of the secondary school students who participated in the research according to the education level of the mothers does not differ statistically.

DISCUSSION, CONCLUSION AND RECOMMENDATIONS

Facebook serves seventy-five languages around the world. Although Facebook was a social network that first appeared to meet the needs of limited students, today it has become a platform where millions of students check their pages, spend their hours and arrange meetings. (Tiryaki, 2015, pp. 120-121).

In this study carried out; Secondary school students' Facebook awareness levels were found to be high. No statistically significant difference was found between awareness levels of girls and boys. According to the educational status of the mother, no difference was found between the Facebook awareness levels of the students. Facebook awareness levels of those with a primary education level were found to be higher. It was found that Facebook security awareness of students with computers is higher than those without computers.

- This study was conducted with volunteers from the public-school students in Turkey's only one province.
- In order to generalize the findings in the study, it may be suggested to repeat on different samples.
- In addition, the research can be deepened with a more detailed interview with the students who have participated in the research and have been given permission from their parents.

- The research was carried out from the social networks only by considering Facebook.
- Security awareness of secondary school students in different social networks can be investigated.
- It is thought that the data obtained in the research will contribute to students' security awareness studies on Facebook and social media.

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