*Journal of Learning and Teaching in Digital Age, 2017, **2**(1), 3-10*

Public Employees' Level of Awareness and Perception on Sexual Abuse of Children in Online Environments: Turkey Case

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ABSTRACT

The purpose of this study is to measure the level of awareness and perception of Turkish public personnel working in public institutions regarding the problem of online child pornography. Participants include 100 public officials positioned in various ministries. Quantitative research method was used in order to obtain information from participants. A questionnaire was submitted to the participants with meetings in person or via the Internet and data were collected. In order to ensure reliability and validity issues, expert opinion was sought as a means to measure validity and reliability. Necessary corrections were made based on the feedback provided. Outputs from the questionnaire were analyzed using the SPSS and the findings were evaluated. The results showed that participants who are rather young with high education levels, well-versed in national regulations, they have the knowledge about digital citizenship; however, it was found that they were not informed about technical issues such as international activities related to child pornography (CP), online child pornography, Darknet, p2p networks and hash databases. The findings showed that the reason behind the lack of awareness on some of these phenomena was the inherent problems in the education system and the insufficiency of the curriculum. Findings clearly show that it is necessary to establish an organic network among several ministries which are responsible for the fight with child pornography. Furthermore, to create a national CP images (Hash) database which can detect the IP number and other information of the ones who share such images online using a national analysis software is another solution proposed.

Keywords: *child pornography, child abuse, child misused, peer to peer networks, p2p*

INTRODUCTION

With the development of technology and the Internet, the benefits brought in by these systems to many areas of our life are indisputable. This is a virtual environment where all kinds of information may come to our attention; the boundaries of the countries have been lifted; distance, time and place have lost their significance; anybody is readily available; and interpersonal communication is unlimited and open (Wolak, Liberatore, & Levine, 2014). The development of today's information and communication technologies has made it possible for us to make every aspect of our life easier, yet it has made us more dependent on these technologies while also having possible negative effects on us. These negative effects influence our lives in many ways. Indeed, the main reason behind these negative effects is that malicious individuals trying to exploit these tools which were intended for the benefit of the people. On the other hand, online environments offer countless benefits. However, this study focuses on the negative aspects of virtual world, not the other way around.

Definition of "child", as noted in the Article 6 of the Turkish Penal Code, is "the person who has not yet completed the age of eighteen", while it is explained as "except that in the case of becoming an adult in early age, every human child shall be deemed a child until the age of eighteen" in the first article of the United Nations Convention on the Children Rights (TCK, BMÇHS). Child pornography, in general, is defined as the act of showing specific anatomic parts of a child's body

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for sexual purposes in a real or staged setting (Polat, 2007).

As shown in Table 1, the population of Turkey is 78.741.053 according to the data obtained from Turkish Statistical Institute as of 2015. The population of the children, on the other hand, accounts for 22.870.683. According to these figures, 29% of Turkey's population consists of children under the age of 18 years. Generally speaking, 1 in almost every 3 persons is a child. When compared to aging European countries, these numbers show us that more serious measures are needed to protect our children in the online environment as a country.

Table 1. Child Population And Proportion, 2013-2015.[a]

Child Population And Proportion, (2013-2015)			
Year	Total population	Total child population	%
2013	76.667.864	22.761.702	29,7
2014	77.695.904	22.838.482	29,4
2015	78.741.053	22.870.683	29,0

Unfortunately, the latest developments in information technology, aside from its positive contributions, have helped people with perverted minds, voyeurs, child pornography addicts, child traffickers, child abusers and other perverted people to fulfill their sick passions given the anonymous nature of the Internet environment (Steel, 2015). Today, online environments have become an easily accessible platform for child abusers to distribute and publish child abuse imagery offering privacy for their identities. Such environments have now become spaces which need to be monitored and controlled.

It is only possible to ensure the success of such controls not only with law enforcement but also with the international cooperation of all organs of the state. Virtual crimes cannot be solved by only with the attempts of the state and the need for international cooperation is underlined. In this study, it is aimed to find out the most effective and vigorous tools to determine the judicial, administrative, preventive and protective measures that public institutions, non-governmental organization, universities and law enforcement should use in this field in the light of the findings obtained by measuring the level of perception and awareness about sexual abuse of children in online environments.

Created with one on one interviews conducted in spring/summer 2010 in Turkey, EU Kids Online Project revealed the risks for Turkey in its report, also shown in Figure 1 (Lobe, Livingstone, Ólafsson, and Vodeb, 2011). The results of the study showed that the risk level children may be exposed to on the Internet was reported to be lower in Turkey when compared to the EU. However, the rate of children's Internet use in Turkey is the lowest compared to other European countries. Turkey, Ireland, Spain and Portugal are in the "low use, some risk" category. The number of children who are uncomfortable with sexually abusive messages in Turkey is twice as much as Europe.

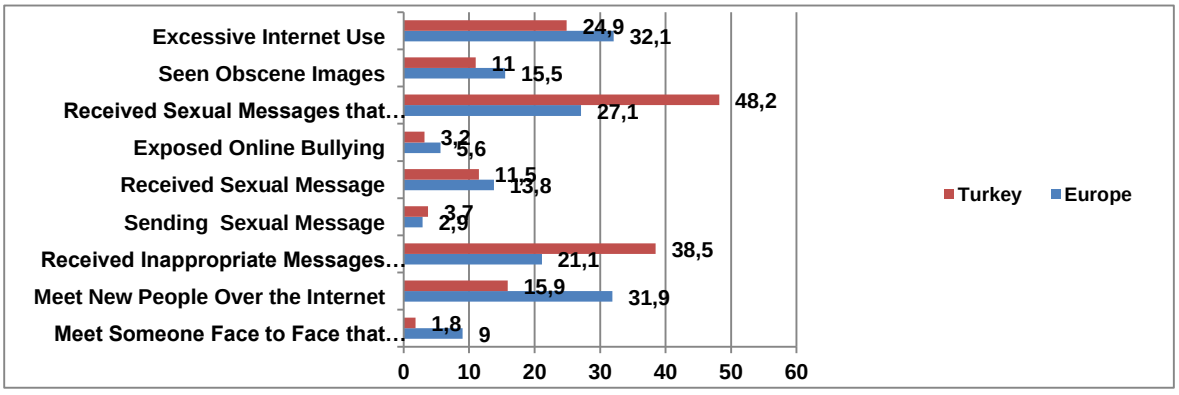

Figure 1. Turkey-Europe Comprasion of the risk ratios that children may encounter.

[a] TUIK (2015), Turkey Statistical Institute, Child population and proportion, 1935-2015, Retrieved from http://www.tuik.gov.tr/HbGetir.do?id=21521&tb_id=1

According to the study conducted by Unveren (2010), prevention of child pornography, just like prevention of other crimes, is an ideal that can be realized in a 'multi-institutional approach'. In order to fight against child pornography, a 10-year 'National Action Plan' should be prepared, covering all public institutions, universities and NGOs, having adopted a multi-institutional approach. The Action Plan should clearly address child pornography with all its aspects and the responsibilities that all relevant institutions must fulfill within specified time frames. Another aspect of the National Action Plan should be the establishment of a "National Child Pornography Coordination Center" which will define the national policy with a multi-agency approach to child pornography. It is necessary that such a matter that concerns our future and all our children should be treated as a state policy. Of course, it will be the best to ensure coordination among institutions and to carry on with the highest authorities in order to prevent the competition to adversely affect the work being done (Ozkan, 2013). According to Smyth (2008), a centralized institution must be initiated to cope with CP in the world. In this way, countries share information and their experiences to see the implementation and administration of a comprehensive anti-cybercrime activities.

Blocking CP in Search Engines

Microsoft and Google are two examples of trying to stop CP in search engines. Ward (2013) indicated that Microsoft and Google took immediate steps to combat child pornographers who used their search engines to find CP content. According to Watt and Garside (2013), Microsoft and Google began to remove CP content from their search engines, filtered search results and warned the users who search such content in search engines. Additionally, Google initiated a program, called as Ad warning, by which it is possible to detect and prevent users who search for CP. In this sense, it would be a good idea to improve and work on such programs because this kind of efforts shows that technical controls aimed at education and prevention can be effective deterrents (Steel, 2015). This study argues that in order to fight with CP, it is not enough to improve only technical search engine blocking systems. A global awareness among countries is needed for a such issue.

Purpose of the Study

The purpose of this study is to measure the awareness and perception levels of the Turkish public employees in public institutions regarding CP. Thinking of experts who work on online child pornography problem, this study tried to identify participants' ideas and suggestions about the issue. The focus of the study was to find the answer to the question of "how to combat more effectively as a country?" and to provide insights in which instruments may be useful in the way.

It is one of our state's primary tasks to create a secure environment in which individuals who have the awareness that they can eliminate the risks and threats that exist in the cyber environment. Besides, it is also aimed that the people, the most important source of the national power today, being raised as healthy individuals under the conditions of the era. Security is not only a necessity for our social life, but also one for online environments. It is also clear from recent reports that international organizations have observed significant increases in online child abuse in Turkey and in the world (Lobe, Livingstone, Ólafsson, & Vodeb, 2011). Nevertheless, according to Turkey's population figures, 1 out of every 3 people is a child, which makes it a necessity to develop more preventive and protective measures than the aging European countries. It is now more than necessity for the state to make its citizens and children feel safe and secure in the cyber society as it is the case with the social life. This study aimed to find the closest model to the ideal for the fight against online child abuse and to make suggestions about what needs to be done by existing institutions.

METHOD

Context

A quantitative methodology was used in the study. Questionnaire was used as a data collection tool. The reason behind this preference was that quantitative research produces generalizable results, makes it possible for comparisons between different groups, tests accuracy levels of theories and explores the relations within a certain structure.

Data Collection

Participants include 100 public officials positioned in various ministries. Quantitative research method was used in order to obtain information from participants for this study. A questionnaire was submitted to the participants who were working in government institutions with meetings in person or via the Internet and data were collected. Outputs from the questionnaire were analyzed using the analysis software and the findings were evaluated.

Questions of the Study

1. What is the age range for being a "Child" in Turkey?
2. Are there any specific activities implemented by your institution for the detection of the CP in online environments, are you knowledgeable about them?
3. Do you have any information about Peer to Peer Networks that are used to share child pornography?
4. Are you familiar with the sharing of child pornography in the so-called Darknet, Darkweb environments?
5. Do you know what to do when you find a website that has child pornography?

Participants

As shown in Table 2, participants of the study are the people employed in public institutions such as the Ministry of Interior, Ministry of Education, Ministry of Family and Social Policies, Security General Directorate and General Command of Gendarmerie located in Ankara, Turkey.

Table 2. Participants' Institutions

Participants' Institutions		
	F	%
M. of Interior	10	10,0
M. of Family	12	12,0
M. of Edu.	37	37,0
National Police	14	14,0
M. of Health	10	10,0
Gendarmerie	17	17,0
Total	100	100,0

Participants' Education

The educational status of the respondents is presented in Figure 2. According to Figure 2, the ratio of the faculty graduates is 57% and the ratio of Master/Doctorate is 31%. For this reason, the vast majority of the respondents appear to have higher education.

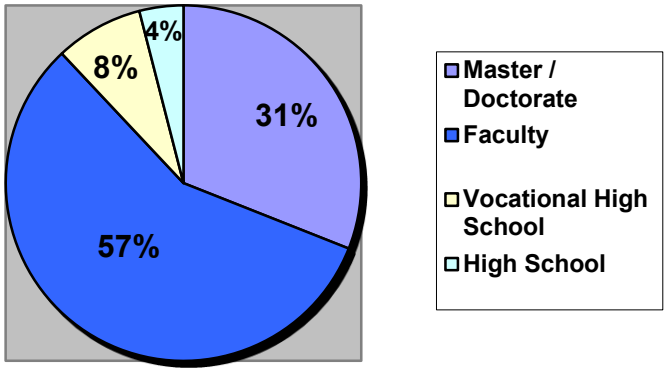

Figure 2. Education Status of Participants

Participants' Length of duty

Length of duty in the relevant institution for each participant is shown in Table 3. As shown in Table 3, the percentage of participants with 6 to 10 years employment experience in the relevant institution accounts for 43% of the total. Therefore, it is seen that the majority of the participants are young and experienced personnel.

Table 3. Employees' Length of Duty

Employees' Length of duty.		
	F	%
0-2 years	18	18,0
3-5 years	20	20,0
6-10 years	43	43,0
10-15 years	19	19,0
Total	100	100,0

Validity and Reliability of the Survey

The questionnaire developed was checked by specialist faculty members (2 specialists). In order to reflect the main purpose on the questionnaire, the feedback about the questionnaire was sought after and necessary corrections were made. Measurement validity and reliability values were measured using SPSS software and the relevant Cronbach's alpha value was found 0.853 for the questionnaire. Results show that the survey is

reliable and is able to measure the thing to be measured at a high level. When studies concerning the reliability of the scale are analyzed, the reliability coefficient of 0.70 and above for specific or general research goals is recommended. Survey Reliability Analysis result is presented in Table 4.

Table 4. Reliability Analysis

Reliability Statistics	
Cronbach's Alpha	N of Items
0,853	20

FINDINGS

Data analysis is presented in related subscales.

Findings regarding P2P Networks subscale

As shown in Table 5, it was found that 42% of the participants did not have any knowledge about peer-to-peer (P2P) networks and 28% had little knowledge about it. Accordingly, the majority of participants were not aware of P2P networks.

Table 5. P2P networks

P2P Networks			
		F	%
	Not Known	42	42,0
	Little Known	28	28,0
	Known	26	26,0
	Known Better	4	4,0
	Total	100	100,0

Findings regarding Darknet/Deepnet

As shown in Table 6, it was found that 58% of the participants did not have any knowledge about Darknet/Deepnet and 24% had little knowledge about it. Accordingly, the majority of participants were not aware of Darknet/Deepnet.

Table 6. Darknet/Deepnet

Darknet/Deepnet		
	F	%
Not Known	58	58,0
Little Known	24	24,0
Known	14	14,0
Known Better	4	4,0
Total	100	100,0

Findings regarding how child pornography is shared subscale

As shown in Table 7, it was found that 57% of the participants did not know how CP is distributed/shared online. However, it was determined that 43% of them was aware how it is or may be shared.

Table 7. How Child Pornography is shared

How Child Pornography is shared ?		
	F	%
Not Known	34	34,0
Little Known	23	23,0
Known	39	39,0
Known Better	4	4,0
Total	100	100,0

Findings regarding international issues subscale

As shown in Table 8, it was found that 45% of the participants did not have any knowledge about the international conventions about child pornography and 22% had little knowledge about it. Accordingly, the majority of participants were not aware of the international conventions about child pornography.

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Table 8. International conventions

Do You Have Any Knowledge About CP International Conventions ?		
	f	%
Not Known	45	45,0
Little Known	22	22,0
Known	31	31,0
Known Better	2	2,0
Total	100	100,0

Findings regarding International Institutions subscale

As shown in Table 9, it was found that 41% of the participants did not have any knowledge about the international institutions fighting against child pornography and 31% had little knowledge about it. Accordingly, the majority of participants were not aware of the international institutions fighting against child pornography.

Table 9. International Institutions

Do You Have Any Knowledge About CP International Institutions ?		
	f	%
Not Known	41	41,0
Little Known	31	31,0
Known	25	25,0
Known Better	3	3,0
Total	100	100,0

CP International Hash Database

As shown in Table 10, it was found that 42% of the participants did not have any knowledge about the international hash database related to child pornography and 26% had little knowledge about it. Accordingly, the majority of participants were not aware of international hash database related to child pornography.

Table 10. CP International (Hash) database

Do you have any knowledge about CP International (Hash) database?		
	f	%
Not Known	42	42,0
Little Known	26	26,0
Known	25	25,0
Known Better	7	7,0
Total	100	100,0

Institutional Project on CP

As shown in Table 11, it was found that 49% of the participants did not have any knowledge about whether there is an institutional project against child pornography and 12% had little knowledge about it. Accordingly, the half of participants was not aware of the existence of an institutional project against child pornography and 39% were informed about such a project.

Table 11. Institutional project on CP

Do you know your Institution has any project against CP?		
	f	%
Not Known	49	49,0
Little Known	12	12,0
Known	24	24,0
Known Better	15	15,0
Total	100	100,0

RESULTS

The majority of the participants hold Bachelor's and Master's/Doctoral Degrees; however, although their educational level was high, it was seen that they had little knowledge about technical information such as Darknet/Deepnet and Peer-to-Peer (P2P) networks. They are aware of the national regulations on child pornography, whereas majority is not informed about international contracts, international organizations and the international hash database, which is why the activities of the European countries are not followed. In order for international activities to be followed instantaneously, there must be some kind

of regulations for Turkish public workers because it is the only way that new developments and initiations might be followed correctly.

Although the educational status of the participants is high, it is suggested that the reason behind majority of the participants had misconceptions and little knowledge about the international activities and projects is the deficiencies in the Turkish education system. It appears that the majority of participants know where and how to report and what they will do when they detect a CP website. It is assessed that the law enforcement officers are generally knowledgeable about the fight against CP. It appears that half of the participants do not have information about who develops the Expert Report on the CP and whether there has been an effort in their institution related to CP. It was found that most of the participants were not aware of Preventive-Protective Measures for CP and Sexting. The majority of participants are knowledgeable about digital citizenship and the need to provide training in this regard and agree with the idea that it is necessary to provide further education on this subject. It is often seen that they have knowledge about how the CP is shared in online environments.

SUGGESTIONS

Since many Turkish ministries are obligated about CP, it is necessary to establish a department which will orchestrate these ministries under an umbrella. As it is the case in the US, this unit should be a unit dedicated not only to protect children online, but also to take strategic decisions that can conduct any kind of task related with lost and victimized children (Wolak, Liberatore, & Levine, 2014). A digital database of national child pornography images (Hash) and an image database of national missing children should be generated. With the cooperation of universities and law enforcement agencies, it is necessary to develop a national analysis software (such as Roundup, Gridcop, Ephex) which is able to identify the IP number and other information of those who share child pornography images online. A special law on the CP should be introduced or the definition of child pornography must be fully established in the existing laws and this law should be adapted according to international conventions. Creating a (Hash) database of the victimized children, Child Victim Identification System should be developed in the digital environment. This will be developed using the Hash database and will help identify the children in the image and offer protection, care, etc. in this regard. INTERPOL International Child Sexual Abuse Database (ICAID) should be used efficiently until the national CP database is developed. Training modules for elementary, junior high school, high school, university on media literacy and digital citizenship should be developed to provide education on this subject. As it is the case in the UK, first, a legal framework must be developed (Covert Internet Investigator), and law enforcement or the related department personnel must be trained as secret internet investigators, and an infrastructure should be set up so that perverted suspects and criminals can be caught in the cyber environment. Law enforcement officers or related departments need to track down exchange of CP materials in P2P networks, social networking sites, social media, and Darknet/Deepnet (Dark Internet) environments using existing software (Wolak, Liberatore, & Levine, 2014). Relevant public institutions should receive training from domestic and international educators on the subject and such training must be provided to law enforcement officers, justice personnel and other related units in order to create an even stronger effect. Specialist units should be created within the law enforcement in this regard. Just like any law enforcement officer can regularly patrol the streets, these specialists must be able to virtually patrol the cyber environment (Steel, 2015). In child pornography operations, criminals must be exposed using mass media, and national consciousness and reaction must be provided psychologically. Public service announcements should be prepared about the fight against the CD and awareness must be raised on the online environments. As it is the case in the USA, Crime Mapping should be developed by law enforcement, all crimes committed must be processed on this map, and citizens should be made aware of where more crimes are being committed. Using e-government facilities with communication possibilities such as website, call center, SMS, etc. it is necessary to be able to easily receive the alerts and complaints. Taking preventive measures related to P2P networks, attaching importance to

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international cooperation, increasing the fighting capacity, awareness and consciousness of the institutions are required. Attention should be given to preventive and protective measures with the awareness that our children, who are our future, are of utmost importance. The https://www.ihbarweb.org.tr/ website must be promoted more effectively raising awareness among the general public. Within the scope of strategic communication, seminars and training modules focusing on "What should school personnel do?" must be developed by the Ministry of National Education, and teachers and students should be trained in this regard. Judges and prosecutors of the Ministry of Justice must be made aware. Further detailed studies should be carried out in the legal, social and technical fields on the CP in our country.

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