

CYBERBULLYING OF PRIMARY AND SECONDARY SCHOOL PUPILS FROM THE ASPECT OF CYBER-AGGRESSORS - SELECTED PROBLEMS AND POSSIBILITIES OF PREVENTION

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Abstract: This study presents the results of an empirical research carried out in selected primary and high schools in Slovakia in 2017/2018. The aim of the study is to describe individual forms of cyber-bullying in terms of sex and age-specific aspects of cyber-aggressors. The research sample consisted of 1,004 respondents aged 10–20 years (AM 14.9). For the empirical data collection, the method of survey was used in form of a standardised written questionnaire according to S. Hinduja and J. W. Patchin (2010). The study focused on the most common forms of cyber-bullying and their identification from the pupil cyber-aggressor's point of view in terms of their sex and age. Statistically significant differences were observed in the forms of cyber-bullying in the following areas from the aggressor's perspective: identity theft, insulting/humiliating using a video, threatening and intimidating the victims in favour of the boys.

Keywords: cyber-bullying, cyber-aggressor, pupil, school.

1 Introduction

The Internet as a medium of the new era represents one of the most important communication tools of the third Millennium. According to the Statistica international statistical portal, the number of Internet users has been constantly rising. In 2016, the number of Internet users around the world reached 3.39 billion, but in 2017, the number rose to 3.58 billion. The electronic media with an access to the Internet are undoubtedly becoming a part of the children and youth's lives. In comparison to other mass communication means, the Internet environment is specific in terms of the speed at which information can be reached, its immediacy and high accessibility all around the world as well as the accessibility of contacts, etc. Children are being born into a digital world, creating generations growing up with the technology. In the life of the "digital kids", the real world overlaps with the virtual one. The Generation Z consists of individuals born after 2000, who have been surrounded by information and communication technology since their childhood. The current society is also referred to as the Google generation; it consists of "digital natives" who no longer remember the era before computers, Internet and the Google search engine. They are used to working with these technologies; instead of remaining passive recipients, they create and share information through the media, constantly communicating, actively learning and acquiring skills. The children of this generation perceive electronic media as a part of their lives (Spitzer, 2014).

Today, children are born into the digital world and they grow up with modern technologies from an early age. The life of these "digital children" comprises both actually lived and virtually "transferred" life within the cyberspace. Social networks are one of the most used and most attractive modern communication platforms among the current generation of children and young people all over the world. They share their experiences or feelings via social networks, communicate with other users, join various groups, or follow the lives of their friends or other public people. The characteristics of anonymity, availability and accessibility, which are typical of cyberspace, offer and enable children and young people to behave with almost no social supervision in the virtual environment. Unrestricted behaviour can result in cyberbullying.

The development of information and communication technologies brought many benefits, but also a number of risks,

including cyber-bullying. Cyber-bullying is a form of bullying using electronic media, such as the Internet and mobile phones, with the intention to inflict aggressive and deliberate harm on the media user. Both, bullying and cyber-bullying is characterised by repeated behaviour and power imbalance between the aggressor and the victim (M. Price – J. Dalgleish, 2010, p. 51). According to the World Health Organisation (2016, p. 14), cyber-bullying includes repeatedly inflicted physical, mental and social harm and occurs in a social environment, often in the school environment, where young people gather, as well as in the online environment. N. Hunter (2012, p. 6) considers cyber-bullying to be an activity which uses force or threat to persecute people with the intention to harm them. Cyber-bullies can hide their identity. Victims of cyber-bullying are ridiculed by a large group of people, and thanks to the virtual possibilities, the frequency of bullying with sexual undertones is increasing. Whereas the traditional bullying-related violence provides people with the opportunity to escape from the situation, in cyber-bullying it is difficult to escape, because the negative content about the victim can be seen by all Internet users (Taşkın, 2014).

Cyber-bullies can be divided into three groups: aggressors, victims and bystanders or onlookers. An online cyber-aggressor is referred to as e-aggressor. The e-aggressors are characterised by the following features: they spend a lot of time online, receive little attention from their parents and are quite good at using complex Internet applications. They are also bullies in the real life. K. Hollá (2010, p. 30–31) provides the following typology of e-bullies:

- The angel of vengeance – typical for children who were bullied themselves or are trying to protect a bullied friend.
- The power-hungry cyber-bully – typical for children who exert their authority and power and want to show it off. Bullies are often girls, but also the physically less fit children who are not very popular in the group.
- The mean girls – typical for bored children looking for entertainment.
- The inadvertent cyber-bullies – respond disproportionately to hateful and provocative messages without realising the consequences of their actions.

Cyber-bullies often desire to bully someone, yet they do not want to be involved in the traditional form of bullying. They are aware of the fact, that in traditional bullying, their position in the group could be harmed, they could be revealed, whereas cyber-bullying can be a good way to achieve their goals. Cyber-bullying is easier to accept for the aggressor, because they do not necessarily have to witness the actual impact of their actions (Černá, 2003, pp. 66–67).

1.1 Characteristics of the research objectives and methodology

The aim of the research was to map and analyse cyber-bullying among pupils of primary and high schools in the Slovak Republic. The objective was to determine the relationships among the forms of cyber-bullying in terms of sex and age of primary and high school pupils.

Empirical research was carried out in the academic year 2017/2018. The empirical data were collected using a questionnaire consisting of scale-based questions. The pupils were to evaluate each item on a 0–4 scale. The scale included the following possibilities: 0 = never 1 = once, 2 = sometimes, 3 = often, 4 = every day; the pupils were also required to express their dis/agreement with the statements provided using yes/no answers. The data collection method combined a standardised Cyberbullying and online aggression questionnaire inspired by S. Hinduja and J. W. Patchin (2010), tested on a pupil group with a similar age in the United States. Custom items were added to

the questionnaire since the standardized questionnaire did not include all social networking sites and mobile applications currently available for installation.

1.2 Characteristics of the research sample

The research sample consisted of 1,004 pupils of primary (394 pupils) and high schools (610) aged 10–20. Detailed figures on the type of school, age and sex are presented in Tables 1 and 2.

Table 1: Distribution of respondents according to the type of school

Type of school							
primary school		grammar school		vocational school		TOTAL	
n	%	n	%	n	%	N	%
394	32.24	210	20.92	400	39.84	1004	100

Table 2: The distribution of respondents in terms of age and sex

Alternatives	Sex				TOTAL	
	boys		girls			
Age	n	%	n	%	N	%
10	17	37.77	28	62.23	45	4.48
11	57	50.89	55	49.11	112	11.16
12	30	39.47	46	60.53	76	7.57
13	55	51.87	51	48.11	106	10.56
14	38	50.67	37	49.33	75	7.47
15	48	54.55	40	45.45	88	8.76
16	72	42.11	99	57.89	171	17.03
17	60	38.96	94	61.04	154	15.34
18	54	48.65	57	51.35	111	11.06
19	32	57.14	24	42.86	56	5.58
20	8	80	2	20	10	1
TOTAL	471	46.92	533	53.08	1004	100

Most respondents attended vocational schools – 400 pupils (39.84%) and primary schools – 394 pupils (39.24%). 210 students attended grammar schools which represents 20.92% of the total number of respondents. In terms of the sex, the majority of respondents were girls – 533 (53.08%). There were 471 boys, which represents 46.92%. The most numerous groups included pupils aged 16 years (17.03 %), 17 years (15.34%), 11 years (11.16%) and 18 years (11.06%).

1.2 Research results

It can be stated that the most common manifestation of cyber-bullying from the cyber-aggressor's perspective included posting rude/insulting statements about someone on the Internet represented by 33.40%, in the favour of boys (21.00%). This is followed by posting rude/insulting photographs/pictures of another person (15.20%); hereby, the proportion of girls (7.80%) and boys (7.40%) was relatively similar. The third most common form of bullying was disseminating untrue information about someone on the Internet (11.30%), more often referred to by girls (6.40%).

The aim of the research was to identify whether the correlation between the sex and individual forms of cyberbullying is of statistical significance. The results are presented in Table 3. The table presents the arithmetic average, standard deviation as well as the minimum and maximum values pertaining to the forms of cyber-bullying in relation to the pupil's sex.

Table 3: Cyber-bullying forms distributed according to pupils' sex

Alternatives		Rude/insulting speech on the Internet	Posting a rude/insulting video on the Internet	Disseminating untrue information on the Internet	Threats via SMS	Threats via the Internet
Boys	AM	0.36	0.04	0.07	0.04	0.10
	SD	0.808	0.289	0.338	0.289	0.465
	Min.	0	0	0	0	0
	Max.	4	4	4	3	4
	N	471	471	471	471	471
Girls	AM	0.16	0.03	0.08	0.02	0.02
	SD	0.472	0.196	0.366	0.211	0.207
	Min.	0	0	0	0	0
	Max.	4	2	4	4	4
	N	533	533	533	533	533
Total	AM	0.25	0.04	0.08	0.03	0.06
	SD	0.659	0.244	0.353	0.251	0.354
	Min.	0	0	0	0	0
	Max.	4	3	4	4	4
	N	1004	1004	1004	1004	1004
Test results	Z	-4.020	-0.157	-1.008	-0.965	-3.398
	p	0.000	0.413	0.335	0.038	0.001

Based on the Mann-Whitney test results, regarding the sex, a statistically significant difference can be observed between these two forms of cyber-bullying: rude/insulting speech on the Internet and threats via the Internet. In both cases, it was found that boys prefer these forms of cyber-bullying.

Table 4: The inference indicator of the statistically significant difference among the forms of cyber-bullying from the cyber-aggressor's point of view

Alternatives	Chi-square	P
Rude/insulting speech on the Internet	39.525	0.000
Posting a rude/insulting photograph/picture	40.340	0.000
Posting a rude/insulting video on the Internet	26.035	0.004
Creating a rude/insulting website	8.165	0.613
Disseminating untrue information on the Internet	28.660	0.001
Threats via SMS	8.194	0.610
Threats via the Internet	22.471	0.013
Abuse/creation of a fake profile	25.742	0.004

In terms of age, a statistically significant difference was confirmed in five forms of cyber-bullying: rude/insulting speech, posting rude or insulting photograph/picture, posting rude/insulting video, disseminating false information and creation of a fake profile. In terms of the forms of cyber-bullying, a statistically significant difference was observed mainly in pupils aged 18-20 years. In the Table 5, the average order of the selected forms of cyber-bullying is presented in which the statistically significant differences were observed in terms of pupils' age.

Table 5: Average ranking of selected forms of cyber-bullying in terms of the age of the cyber-aggressors

age	rude/insulting speech		posting a rude/insulting photograph/picture		disseminating untrue information		creation of a fake profile	
	Mean rank	AM	Mean rank	AM	Mean rank	AM	Mean rank	AM
10	432.07	0.04	488.00	0.00	474.00	0.00	485.00	0.00
11	445.18	0.05	492.46	0.01	474.00	0.00	489.44	0.01
12	453.34	0.12	494.57	0.01	487.47	0.07	498.36	0.07
13	495.61	0.23	492.71	0.01	478.92	0.02	489.69	0.01
14	487.32	0.21	488.00	0.00	501.09	0.08	505.54	0.08
15	505.52	0.26	493.68	0.01	502.71	0.08	501.94	0.03
16	528.28	0.33	508.45	0.04	529.61	0.14	511.35	0.06
17	516.87	0.30	504.22	0.03	506.64	0.05	504.47	0.05
18	543.64	0.39	515.24	0.07	523.25	0.11	493.95	0.02
19	549.12	0.45	542.33	0.21	509.95	0.13	538.93	0.18
20	615.30	0.50	537.95	0.10	523.45	0.10	586.05	0.30

3 Discussion and Conclusions

The study examines the mutual relationships between the sex and age of cyber-aggressors and the cyber-bullying forms. It has been shown that the most common form of cyber-bullying is rude/insulting speech on the Internet – denigration, provocation and online attacks. It was statistically proved that mostly boys and pupils aged 18–20 incline to aggressive behaviour in the cyberspace.

Boys and girls seem to take different roles in cyber-bullying. In general, research results concerning cyber-bullying are inconsistent; the differences are not clear-cut. In some studies boys were identified as cyber-bullying aggressors more frequently (e.g. Q. Li, 2006; R. Slonje and P. K. Smith, 2013; K. Kopecký et al., 2015; K. Hollá, 2016, 2017; M. Dulovics, 2017; S. Hinduja and J. W. Patchin, 2016); however, in other studies, girls prevailed (e.g. Kowalski et al., 2008; Schneider et al., 2012). Research shows that boys are more prone to physical aggression in comparison to girls; in the online environment, boys use threats of physical aggression and happy slapping more often than girls. On the other hand, girls use verbal skills to express their aggression more often than boys (S. Hinduja and J. W. Patchin, 2016). In general, it can be stated, that the boys are more often in the position of cyber-aggressors.

In 2013–2015, K. Hollá (2016, 2017) studied sexting and cyber-bullying; she found out that in boys the probability of becoming a cyber-aggressor is 7.37 times higher than in girls. In most cases, cyber-bullying occurs among boys aged 17. The most common forms of attack they used included sending rude/insulting messages (28.90%), false information (24.30%) and sharing compromising photographs on the Internet (19.60%). The research of the Centre for the Prevention of Risky Virtual Communication also identified boys as the more frequent cyber-aggressors (K. Kopecký, R. Sztokowski, V. Krejčí, 2015). According to the research results, boys acted as the cyber-aggressor more often (e.g. identity theft – 63.67% boys, 36.33% girls; insulting/humiliating someone using video – 61.97% boys, 38.03% girls; threatening and intimidating – 57.68% boys, 42.32% girls). The verbal attacks were an exception, in this case girls acted as the cyber-aggressors more often (52.29% girls, 47.71% boys).

In M. Dulovics's research (2017) carried out among pupils of primary and high schools, the statistically significant differences in sex were found in the following forms of cyberbullying – posting insulting photographs, threatening and insulting someone via chat, vulgar or offensive speech in the on-line environment – more frequently among boys in all three cases. Cyber-bullying via chat was noticed in 27 (46.6%) boys and 8 (21.1%) girls, 23 (39.7%) boys and 3 (7.9%) used offensive

language in the communication on the Internet. 3 (5.2%) cyber-aggressors have created a fake profile on the behalf of another person. All of them were high school students. Outing was carried out by 8 (7.3%) cyber-aggressors; 5 (8.6%) were boys and 3 (7.9%) girls. Happy slapping was performed by 2 (3.5%) boys in the research sample. These were high school students in their 2nd and 3rd year of studies.

S. Buelga, M. J. Cava, G. Musitu a E. Torralba (2015) stated in their study that 69 (5%) of students committed a serious and recurring form of cyber-bullying. The authors revealed significant differences between the cyber-bullying forms preferred by either sex: cyber-stalking, posting insulting videos and photographs that can harass or harm the victim. The boys scored higher in all of them. Social exclusion represented an exception, girls preferred it statistically more often than boys.

K. Hollá and H. Hanuliaková (2017) researched the relationship between the student's social status in the class and their role as the cyber-victim or cyber-aggressor. The research sample consisted of 1,118 pupils of Slovak primary and high schools (45.50% boys and 55.50% girls). It was found out that both groups of respondents (boys and girls) pertain to the same statistically significant category: I am making fun of the others. Among boys, the behaviour making fun of others and rude behaviour shows that they may become cyber-aggressors or victims of cyber-crime. The self-assessment of girls indicates they may become cyber-aggressors and cyber-victims at the same time due to lies and gossip spreading in the class.

The UK Safer Internet Centre (2017), which studied a sample of 1,500 children and young people aged 8–17 in the UK, found out that more respondents aged 13–17 years (45%) have experienced cyber-bullying as victims or aggressors than respondents aged 8–12 years (32%).

R. Slonje, P. K. Smith, and A. Frisen (2012) found out that girls were more likely to become cyber-aggressors at a younger age, whereas there was no difference in the probability of becoming cyber-aggressors between girls and boys as they got older.

C. Barlett and S. M. Coyne (2014) observed statistically significant differences in terms of the sex and age. Among younger respondents, it was confirmed that girls were more involved in cyber-bullying than boys. As they got older, the probability of boys being involved in cyber-bullying increased – in late adolescence and at the university.

Cyber-bullying, as a socio-pathological phenomenon in the contemporary society, and its various forms in the on-line environment made up of different technologies daily influence pupils in primary and high schools. It is widespread not only in the school environment, but also everywhere the pupils can live their “virtual” lives. The cyber-space (often) provides an anonymous opportunity for the pupils to behave aggressively on the Internet.

Cyber-bullying represents a serious socio-pathological phenomenon. It requires special attention, mainly in terms of prevention. The cyber-bullying prevention must occur across the country and involve a number parties including parents, teachers and the whole community with the aim to stop cyber-bullying at the very beginning. These efforts should focus especially on children and young people with the biggest predisposition to become bullied. In this respect, it is very effective to build a community where young people learn strategies to deal with anger, strengthen positive behaviour and sense of social cohesion within the community (Bullying, a prevention toolkit, 2011, p. 7).

The children and youth belong among the largest and most active electronic media user groups, but they also represent the group at the greatest risk, since they are not always able to critically select the information offered by the media. The virtual environment is favourable for the development of risk behaviour, endangering not only the individuals, but also their surroundings.

Cyberbullying is a serious educational and social problem, accompanying the development of information-communication technologies. It is important to pay attention to its prevention and ways of dealing with this issue at schools. It is the school that should provide a safe space for the prevention of social-pathological phenomena and therefore of cyberbullying. Prevention at schools should be realized as a planned, purposeful, systematic and continual process. K. Hollá (2016, p. 138) offers an updated model of cyberbullying prevention at schools by modifying a three-level model presented by Ch.F. Brown and M. K. Demaray. This model constitutes of the following levels and steps:

1. the elaboration of the cyberbullying prevention plan:
 - a) to become acquainted with cyberbullying;
 - b) to map the cyberbullying occurrence at schools;
 - c) to create a prevention and intervention programme;
2. the implementation of prevention and intervention techniques - the implementation comprises:
 - a) the education in the issue of cyberbullying;
 - b) the creation of different procedures and interventions;
 - c) the determination of sanctions;
3. reporting of cyberbullying cases in the school environment that includes the following steps:
 - a) anonymous system of reporting;
 - b) counselling and victim support;
 - c) formal procedures for dealing with cyberbullying.

K. Hollá (2016, p. 134-170) emphasizes that "the introduced model must fulfil the school's possibilities and reflect students' and teachers' needs." It will bring optimal results only if the prevention and intervention methods are carried out continuously, not only immediately after the incident. The three-level model focused on the prevention and intervention includes the school's attitude towards the cyberbullying prevention and educates the school employees, pupils, and their parents. This model can help predict, plan, prepare and educate pupils and teaching staff in cyberbullying prevention.

Cyberbullying prevention must have a wide focus and include many professionals, parents, teachers and also the wider community, with the aim to prevent cyberbullying before it has a chance to appear. Preventive efforts should be concentrated mostly on children and the young because they are more likely to be bullied. In this respect, it is very useful to create a community where the young people could learn various strategies of anger management, enforcement of positive behaviour and a sense of belonging to the community (Bullying: A Prevention Toolkit, 2011, p. 7).

The school may create a campaign to raise the awareness of teachers, parents, pupils, and to inform the school's employees about the forms of cyberbullying and the ways of dealing with it. The involvement of pupils in conceiving and keeping the rules for an adequate and responsible use of school information technologies creates a great advantage. The main aim should be the explanation of what cyberbullying is; to keep in mind that "it is forbidden to use the Internet for cyberbullying, to sum up the prevention strategies and cyberbullying solutions; and to determine sanctions for their non-compliance (Preventing Cyberbullying in Schools and the Community). In this respect, it is important to teach pupils to identify the threats arising from the use of modern technologies and to show them other forms of effective defence. School represents the institution in which pupils spend most of their day and thus also a key factor in revealing of risk behaviour. The primary mission of school education is to educate the pupils efficiently, provide them with information and also teach them how to select and critically recognize it. It is essential that pupils learn to evaluate things and phenomena, to evaluate themselves and others, which is a very important area of human cognitive abilities, in the process of education. These competences are necessary not only for their successful application in practice, but it is also important for those working in different educational institutions to be able to clearly explain to the public what they teach, how they teach and why the ability to think critically for society is important. The

development of critical thinking promotes discussion. Learners learn to evaluate information, express their own opinion and attitude, and last but not least take responsibility for their decisions. Based on the Learning Slovakia national programme of development in education and upbringing submitted for public discussion by the Ministry of Education, Science, Research and Sport of the SR, the sections 1–10.07 emphasize the creation of opportunities to address the current affairs in the educational programmes. The curriculum is supposed to provide certain space for the teachers to address the current affairs in Slovakia and abroad, comment on important events and use it as an opportunity to interconnect the subject matter with the actual world. In the section addressing forms, methods and organisation of the educational process (1–11.06), the programme emphasizes that more opportunities for the pupils to ask questions, discuss and present their own opinions and arguments needs to be provided. All these activities develop critical thinking.

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