

Analysis of Cyber-Bullying Forms by Aggressors in Elementary and Secondary Schools

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Abstract

The study maps cyber-aggressors in elementary and secondary schools, with regard to an analysis of cyber-bullying forms. The aim of the presented empirical research was to identify pupils in the research sample who had committed repeated aggressive behaviour towards another person via the Internet, as well as to find out significant differences in individual cyber-bullying forms by gender and attended school forms. The research sample consisted of 390 pupils of elementary schools and 541 pupils of secondary schools. Empirical data were collected with the use of the questionnaire method. 96 cyber-aggressors were identified in the research sample. They were pupils who ticked one or more statements relating to cyber-bullying forms, admitting that they had repeatedly used them. It was found out that the most frequent cyber-bullying form was insults, threats and name-calling in online communication, thus the so-called *flaming*.

Keywords: *cyber-bullying, Internet, pupil, aggressor, school*

Introduction

Threats linked to the Internet virtual environment, in particular those in various forms of cyber-bullying, are a frequently discussed topic nowadays. Authors intensely dealing with the issue include K. Hollá (2013), J. Šmahaj (2014), S. Hinduja, J. W. Patchin (2010), R. Slonje, P. K. Smith, A. Frisé (2013), etc.. Publications

by the above authors, but also many other publications, focus on monitoring of forms, means, as well as participants in cyber-bullying. They look for connections between real bullying and cyber-bullying and analyse many other areas.

S. Hinduja, K. Patchin (2010), K. Hollá (2013) and other authors define cyber-bullying as recurring bullying using modern technical devices and media.

The aim of our contribution is to analyse at the empirical level cyber-bullying forms in pupils of elementary and secondary schools from the aspect of aggressors. The frequency of cyber-bullying forms was mapped by 9 scaled statements in a questionnaire. The presented statements were categorized into individual cyber-bullying forms, defined primarily on the basis of N. Willard's typology (2005):

- Flaming- vulgar name-calling in online communication, threats and insults via chat;
- Harassment- publishing an insulting/humiliating photograph, status, comment;
- Impersonation- creating a false profile;
- Outing- taking photographs and videos of other people in embarrassing situations and publishing them on the Internet;
- Happy slapping- publishing a video showing another person being physically hurt.

At the theoretical level, A. Hudecová and K. Kurčíková (2014) perceive the above cyber-bullying forms as follows:

Flaming- using vulgar messages and comments, the aggressor attempts to provoke the victim to a response. Flaming usually takes place in an environment of public communication between two people or small groups. It is of a short-term nature and the protagonists are equal on the communication, argumentative and social side.

Harassment- most frequently it concerns sending insulting, humiliating, threatening messages bombarding the victim via various communication channels in the virtual space. A specific form of harassment is the so-called "sexual harassment," when the victim receives messages or photographs with sexual content.

Impersonation- is characterised by the main participant pretending to be the victim of cyber-bullying. Impersonation has more phases. In the first phase, friendship is made with the victim. The second phase consists in eliciting the password and identification data from the victim and abusing the victim's name. In the third phase, the aggressor assumes the victim's identity and sends cruel, threatening messages to a third person in the victim's name, while imitating the thinking of the victim whose identity was stolen. There are two types of victims

of impersonation. The primary victim is the person whose identity is stolen and abused in the effort to get him or her into trouble. The secondary victim is the person receiving threatening messages from the aggressor.

Outing means taking photographs and videos of the victim in intimate and embarrassing situations (changing clothes, personal hygiene, toilet, etc.) and then publishing such materials on the Internet. Perpetrators of outing may even attempt to blackmail the victim in order to obtain some personal benefit.

Happy slapping- a relatively new phenomenon, specific because of linking classic bullying and cyber-bullying. Happy slapping is an unexpected attack on a victim, recorded by a mobile phone or other devices and then published on the Internet. The attack and its record are real, but what is more important and devastating for the victim in the long term is its publishing on a website or social network. Danger of such a video record is also in the possibility of inciting further aggression in all viewers of the video.

Cyber-bullying is a serious educational as well as social problem. Its most frequent consequences, according to the portal "*kyberšikanovanie.sk*", may include the following:

- Neglecting school duties, failing at school, avoiding school;
- Psychosomatic difficulties;
- Feelings of shame, embarrassment, humiliation, sadness, depression, anxiety;
- Constant fear and feeling threatened;
- Feeling of one's own failure, decline in self-confidence and confidence in people;
- Feelings of helplessness and hopelessness

The aim of the study is to present the current state of prevalence of cyber-bullying among children and youth in the schools studied in the Slovak Republic, with regard to aggressors.

Research Methods

Characteristics of the research sample

The research sample consisted of 390 pupils of elementary schools and 541 pupils of secondary schools in the region of Banská Bystrica, Žilina and Prešov. Pupils in the 6th and 7th forms of elementary school and pupils in the 2nd and 3rd forms of secondary school were studied. The age difference in the research sample was determined with a view to identify cyber-bullying specifics during puberty and adolescence.

The respondents were selected using multiple random sampling in two steps. In the first step, three self-governing regions to carry out the research in were chosen by lots. In the second step, each of the self-governing regions compiled a list of elementary and secondary schools. The size of the basic sample was determined using data published on the website “*Rozvoj informatizácie regionálneho školstva*” (Development of Regional Education Informatization). Schools for pupils with special education needs were not taken into account, nor were basic art schools.

Then, each of the self-governing regions selected four elementary schools and four secondary schools by systematic sampling. Each 55th school in the self-governing region was included in the research sample. Since not all schools chosen for the research sample were willing to co-operate, the first sample had to be slightly modified.

Classes in the schools were chosen using convenience sampling. Each school addressed only two classes, which showed also in the size of the research sample in the individual regions of the SR.

To identify the group of cyber-aggressors within the research sample, having repeatedly committed a certain form of online aggressive behaviour or having committed cyber-bullying using more of its forms were taken into account.

Characteristics of the research methods

The empirical research was carried out from April to September 2016. Empirical data were collected using a questionnaire of our own design. The questionnaire focused on a broader spectrum of online risk behaviour. In line with the aim of the study, a scaled question was evaluated, consisting of 9 statements aimed at identification of aggressors and individual cyber-bullying forms. The pupils had the option to tick each statement the frequency of individual cyber-bullying forms on a 5-degree ordinal scale. The scale consisted of the following degrees:

“Never- Once- Twice to three times- Four to five times- More than 5 times”

Results of empirical findings

Cyber-bullying is a serious social and educational problem, the consequences of which can severely disrupt the healthy psychosocial development of a child or young person. Our research focused on identification of its forms from the point of view of gender and school forms attended by cyber-aggressors.

Results of the empirical research are presented in Tables 1 to 3, where the methods of inferential and descriptive statistics were used in data processing. The

following non-parametric tests of inferential statistics methods were used: the Mann-Whitney and Kruskal-Wallis tests, due to uneven distribution of variables in the research sample of pupils. In respect of the descriptive statistics, the arithmetic mean, minimum, maximum, and absolute and relative frequency were used.

Table 1 presents statistically significant differences in cyber-bullying forms by gender of the pupils of elementary and secondary schools.

Table 1. Inferential indicators of statistically significant differences in cyber-bullying forms by gender

	Publishing an insulting photograph	Publishing a humiliating status	Threats/insults via chat	Insulting/threatening e-mails	Insulting comments on photographs	Creating a false profile	Outing	Happy slapping	Vulgar name-calling in online communication
Aggressors	14	14	35	5	13	3	7	2	26
U	884.0	981.0	830.5	1065.0	932.0	1043.0	988.0	1045.0	670.5
p	0.031	0.183	0.021	0.539	0.688	0.356	0.122	0.157	0.000

The results of the Mann-Whitney u-test showed a statistically significant difference in gender in three cyber-bullying forms: “*publishing an insulting photograph*”, “*threats/insults via chat*”, and “*vulgar name-calling in online communication*”. They were also three most frequent cyber-bullying forms in the research sample.

As to their occurrence, “*threats and insults via chat*” were the most frequent cyber-bullying form, admitted by 35 (36.5%) aggressors. The second most frequent form of online aggression, with a confirmed statistically significant gender difference ($p = 0.000 < \alpha = 0.05$), was “*vulgar name-calling in online communication*”, ticked by 26 (27.1%) pupils. In both cases, the most frequent cyber-bullies were boys.

A statistically significant gender difference ($p = 0.031 < \alpha = 0.05$) was also found in “*publishing an insulting and mocking photograph*”. Photographs humiliating or mocking another person were published on the Internet by 11 (19%) boys and 3 (7.9%) girls.

Further analysis aimed at finding out whether there was a significant difference in individual cyber-bullying forms by school forms. Inferential statistics indicators are presented in Table 2.

Table 2. Inferential indicators of statistically significant differences in cyber-bullying forms by school forms

	Publishing an insulting photograph	Publishing a humiliating status	Threats/insults via chat	Insulting /threatening e-mails	Insulting comments on photographs	Creating a false profile	Outing	Happy slapping	Vulgar name-calling in online communication
Aggressors	14	14	35	5	13	3	7	2	26
Df	3	3	3	3	3	3	3	3	3
P	0.000	0.004	0.002	0.206	0.155	0.175	0.052	0.305	0.124

The results of the significance from the point of view of attended school forms were slightly different from those of the research sample analysis from the aspect of gender. The Kruskal-Wallis test confirmed a statistically significant difference in 3 out of 9 analysed cyber-bullying forms.

A statistically significant difference by attended school forms was confirmed in “*threats and insults via chat*” ($p = 0.002 < \alpha = 0.05$), “*publishing an insulting photograph*” ($p = 0.000 < \alpha = 0.05$) and “*publishing humiliating statuses*” ($p = 0.004 < \alpha = 0.05$). In all the three forms of cyber-bullying, aggressors were most frequently pupils of the 2nd form of secondary school. “*Publishing an insulting photograph*” and “*publishing humiliating statuses*” did not occur in elementary schools.

Descriptive indicators of individual cyber-bullying forms by the gender of pupils are presented in Table 3.

Based on the research findings presented in Table 3, the respondents manifested aggression most frequently during virtual communication. When looking at the empirical data from the point of view of mean values, it can be stated that “*vulgar name-calling in online communication*” and “*threats via chat*” considerably prevailed over other forms of cyber-aggression.

The degree “*Twice to three times*” on the scale was approximated the most by responses to the statement “*threats/insults via chat*” with the mean value of 2.16. The second place was taken by “*vulgar name-calling in online communication*” with the mean value of 2.10. Name-calling, insults and vulgarisms are common particular in teenagers’ and adolescents’ communication. The Teaching and Learn-

ing International Survey of 2008, "Talis", the results of which are presented in the report of the *National Institute of Certified Measurements of Education*, reports that precisely vulgarisms and name-calling belong to frequent forms of pupils' undisciplined behaviour at school.

Table 3. Descriptive indicators of aggressors with regard to cyber-bullying forms by gender

	Publishing an insulting photograph	Publishing a humiliating status	Threats/insults via chat	Insulting/threatening e-mails	Insulting comments on photographs	Creating a false profile	Outing	Happy slapping	Vulgar name-calling in online communication
Mean	1.71	1.60	2.48	1.17	1.71	1.21	1.38	1.14	2.59
Aggressors	11	12	27	2	11	3	5	2	23
Other pupils	403	402	387	412	403	411	409	412	391
N	414	414	414	414	414	414	414	414	414
Boys									
Minimum	1	1	1	1	1	1	1	1	1
Maximum	5	5	5	5	5	5	5	5	5
Mean	1.26	1.18	1.66	1.11	1.24	1.05	1.11	1.00	1.37
Aggressors	3	2	8	3	2	0	2	0	3
Other pupils	514	515	509	514	515	514	510	515	514
N	517	517	517	517	517	517	517	517	517
Girls									
Minimum	1	1	1	1	1	1	1	1	1
Maximum	5	5	5	5	5	5	5	5	5
Mean	1.54	1.44	2.16	1.15	1.52	1.15	1.27	1.08	2.10
N	931	931	931	931	931	931	931	931	931
Total									
Minimum	1	1	1	1	1	1	1	1	1
Maximum	5	5	5	5	5	5	5	5	5

Cyber-bullying by "threats/insults via chat" was admitted by 27 (46.6%) boys and 8 (21.1%) girls. 23 (39.7%) boys and 3 (7.9 girls) had used "vulgar name-calling in online communication" with others.

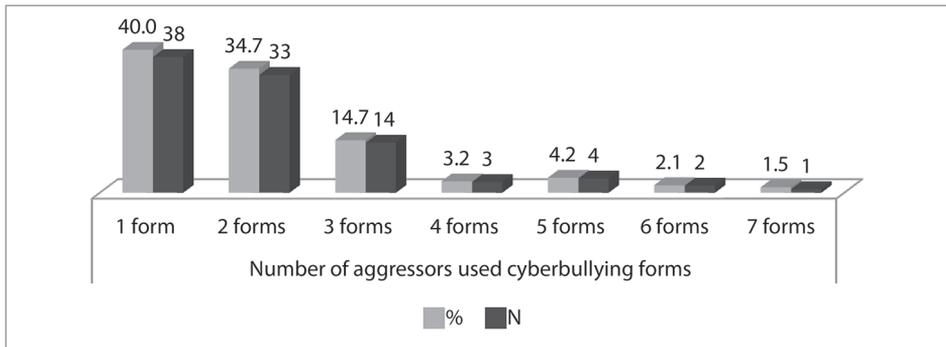
Our further analysis focused on less frequent, but all the more dangerous and serious cyber-bullying forms such as impersonation, outing and happy slapping.

A false profile under the name of another person had been created by 3 (5.2%) aggressors, all of them pupils of secondary schools.

Outing had been committed by 8 (7.3%) aggressors, out of whom there were 5 (8.6%) boys and 3 (7.9%) girls. Happy slapping had been committed by 2 (3.5%) boys in the research sample. They were pupils in the 2nd and 3rd forms of secondary school.

Another indicator taken into consideration when identifying aggressors was whether the pupils had committed more cyber-bullying forms concurrently, which together with repeated assaults may signal a serious problem in the child's or adolescent's behaviour. Moreover, the synthesis of more cyber-bullying forms via the Internet has a more destructive effect on the victim, since the victim is tyrannized and harassed at more levels. The synthesis of cyber-bullying forms in pupils is presented in Graph 1.

Graph 1. Descriptive indicators of combinations of more cyber-bullying forms in aggressors



The research results presented in Graph 1 show that 38.40% of the aggressors had committed cyber-bullying only using one of its forms. The persons behaving aggressively in the Internet environment used combinations of several cyber-bullying forms more frequently (n = 57 / 60%).

Due to the vast spectrum of combinations following from the respondents' responses, the study presents only the most frequent of them. In the pupils who ticked having committed 2 cyber-bullying forms, the combination "vulgar name-calling in online communication" and "threats and insults via chat" prevailed. The second most frequent combination was "publishing a mocking photograph" and "publishing a humiliating status".

Below, the study concentrates in more detail on the analysis of the aggressors with repeated aggressive behaviour on the Internet, combining 4 and more cyber-bullying forms. All the 10 aggressors were pupils of secondary school, with only one girl among them. As to their academic achievement, they were pupils with various study results from excellent to under average. The analysed aggressors were active users of the Internet and a considerable part of them spent online more than three hours a day per work-week.

Examination of the 10 pupils' profiles brought an interesting finding. The aggressors themselves, except for one of them, had had a repeated experience with cyber-bullying in the position of a victim, while exposed to more cyber-bullying forms concurrently. A similar conclusion was arrived at also by J. Kerstens and S. Veenstra (2015) in their own survey finding out that 24.2% of aggressors had been also bullied online.

The findings made us re-examine the responses of all the 96 pupils with repeated aggressive behaviour in the Internet environment. We wanted to find out how many of them were also victims of cyber-bullying. We found that up to 45 (46.9%) pupils in the aggressor role had also an experience with cyber-bullying in the position of a victim, which is almost twice as many when compared with the Dutch survey.

Discussion

The increase in aggressive behaviour among children and youth is a pressing and long-standing problem. In the Slovak Republic, the issue is paid considerable attention to by professionals, which is confirmed by studies by several authors, such as C. Határ (2007), I. Emmerová (2014), M. Niklová and M. Šajgalová (2016), etc.

Social changes brought about by technological advancements and expansion of the Internet at the beginning of the 21st century have caused aggressive behaviour and bullying to move into the cyber-space. Besides its many benefits, the Internet has become a source of several threats and risks.

Based on their research conducted on a sample of 964 respondents, the authors S. Buelga, M. J. Cava, G. Musito, and E. Torralba (2015) reported that 69 (5%) pupils had committed a serious and repeated form of cyber-bullying. The authors found significant differences in aggressors by gender only in some cyber-bullying forms, such as cyber-stalking or publishing videos or photographs with content harming or harassing the victim. Boys obtained higher scores than girls in all aggression types except for "social exclusion".

When comparing the above research with our findings, certain analogies are obvious. The group of authors S. Buelga, M. J. Cava, G. Musito, and E. Torralba (2015) also pointed out a statistically significant difference between genders in some cyber-bullying forms, finding out that boys were more frequently in the cyber-aggressor role than girls. The authors also found out a statistically significant difference between genders in publishing photographs with harming content, similarly to our empirical research.

The study by Dutch authors J. Kerstens and S. Veenstra (2015) "*Cyber-Bullying in the Netherlands: A Criminological Perspective*" reported somewhat more positive findings. In a research sample consisting of 6 299 respondents – 10- to 18-year-old children and teenagers, 91 (1.4%) were identified as aggressors in electronic bullying. When compared with the Dutch survey, our research sample produced a higher percentage of aggressors (96 / 10.2%).

In this connection, we consider it important to mention also the empirical findings of the *European Schoolnet* project "*Insafe*" (2007). The survey involved 21 825 children and teenagers at the age of 10 to 18 from 36 European countries. The survey focused on several areas of online risk behaviour. One of the research objectives was to find out how children and teenagers would respond to online contact requests from unknown people. The findings indicated that almost 30% of 10-year-old children were willing to respond to a request from an unknown person and even give them personal information. Almost 15% of children under 10 even believed that one could discover the identity of the unknown person via chat. Such behaviour puts the respondents in the position of risky users of the Internet with an increased probability of becoming a cyber-victim. In this connection, children and teenagers are endangered mostly by such cyber-bullying forms as sexting, cyber-grooming, impersonation, etc.

Conclusion

Over the last decade cyber-bullying has been on the increase among children and youth, which has been confirmed by several foreign and domestic studies. The urgency of the issue is testified also by the results of our empirical findings showing that each 10th pupil committed repeated aggressive behaviour towards another person on the Internet.

The situation raises the need for preventive action by teaching staff, professional staff as well as family. An important role at this level is played primarily by development of tolerance, empathy, and, to a great extent, also media literacy

of pupils of elementary and secondary schools. Therefore, we recommend that schools should intensify their interest in teaching Media Education according to the state educational programmes ISCED 0 to ISCED 3 included in cross-cutting themes as a compulsory part of education.

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