Connection Between Exposure to Internet Content and Violent Behavior Among Students

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Summary: Internet allows great interaction between real and perceived anonymous environment. Adolescents, acting under the assumption of anonymity show different patterns of behavior, which has lead to a new form of violence: cyberbullying. There is a possibility of both positive and negative behavior in virtual space, however, the negative side of the Internet is what attracts our attention. The aim of this research is to examine the connection between exposure to Internet content and violent behavior among students. The study has included 190 primary school students and 174 high school students (N=364) from area of Karlovac County (Republic of Croatia). The hypothesis of a connection between students' violent behavior on the Internet and students' violent behavior in school has been confirmed, while the hypothesis of connection between experiencing and committing violent behavior on the Internet has been partially confirmed. The results of this study indicate a need for further research on the role of Internet in students' behavior, i.e. their violent behavior, in both virtual and real world.

Keywords: Internet, violent behavior, experienced and committed violent behavior

INTRODUCTION

Modern technology has created a new type of abuse among young people, the so-called cyberbullying. Nowadays we can often hear about harassment via e-mail, chat, blog or Facebook. A definition of the U.S. National Crime Prevention Council on Internet violence is: "Internet bullying is called cyberbullying, and it happens when Internet, mobile phones or other devices are being used for posting texts or images intended to offend or harass another person" (according to: http:// www.ncpc.org/cyberbulling).

Peer violence via Internet involves stimulation of group hatred, harassment, invasion of privacy, stalking, abuse and spread of violent and offensive comments. It may also involve sending cruel, and sometimes threatening messages, as well as creating websites that contain stories, drawings, pictures and jokes about peers. It is psychological type of abuse, and its consequences may sometimes be more serious than those caused by violence in real life. A child can be exposed to Internet violence at any time or place, which significantly affects their sense of security and protection (Buljan- Flander and osi , 2004).

The anonymity is the reason for the worst Internet messages that encourage excessive slander, violence, dishonesty and abuse of language and general rudeness (Macintyre, 2006). Internet violence is a dangerous phenomenon that occurs when the bully sends or transmits harmful material and participates in various forms of social aggression using the Internet or other electronic technology (Sabella, 2007). Such aggressive behavior can cause great trauma to a victim who may therefore suffer from serious psychological consequences that may even lead to suicide (Feinberg and Robey, 2009).

Unlike traditional bullies, Internet bullies do not rely on their physical strength, but still tend to take control over their victims by imposing verbal, emotional or psychological abuse. Interestingly, girls are more likely to become online bullies than boys, and they often take other girls as their victims (according to: http://stopcyberbullying.org/).

On the Internet, adolescents often engage in activities which put them at risk, while parents are not fully aware of the range and frequency of online activities of their children (Evans, 2005).

In 2005, Child Protection Center of Zagreb and Hrabri telefon/Brave Telephone Association have conducted a research on violence via electronic media. The study involved 2.456 students from different parts of Croatia. The study has resulted in the following:

- 15% of children have reported that someone has wrote and posted their secrets or lies about them
- 5% of children have said that someone has posted their images and videos, together with mean comments.
- 20% of children have reported that someone else introduced themselves as she or he and then talked/wrote on their behalf
- 18% of children have said that some had insisted on meeting live even when they did not want to (according to: http://plivamed.net)

Researches across the world and in our country have shown that violence in media encourages the development of aggression and violent behavior among young people (Bushman and Huesmann, 2001).

Except violence, Internet also causes some other problems. One of the world's leading psychiatrists, Himanshu Tyagi, claims that MySpace and Facebook may seriously harm mental development and health of teenagers because people with active Internet profiles diminish the value of their real personality. Therefore, experts do not hide their concern about such social networking sites because they may encourage impulsive behavior and even suicides. Tyagi has pointed out that people born after 1990 learn about the world through Internet, and today's experts are not yet ready to deal with problems that young people have because of using it (according to: http://www.index.hr/vijesti/clanak/myspace+facebook-unistavaju-mlade-osobe/393694. aspx).

Violent scenes, murder, pornography, crime, violent games and other inappropriate content offered online encourage children to violence. CNN Agency has examined why there is a constant increase in number of attacks on the homeless and came to the conclusion that a major cause of violence are video games. Three young men have beaten a homeless to death, and the cause of violence was the imitation of a computer game. In Podgorica in 2007 two girls have physically and mentally abused another girl, cut her hair, slapped her and called her names. Everything was videotaped and the video was posted on the Internet. Four years after the scandal, the footage can still be seen on the Internet.

In Ukraine, two teenagers have killed 19 people. On the streets at night, they were looking for helpless old people who could not stand up for themselves and beat them to death. According to the criminals' testimonies, they got this idea from their favorite computer game (Ruži , 2007).

At a conference in Stockholm (2009) *Children and* online *Sexual Violence-* research, protection and support, included a presentation of data on the vulnerability of child victims of cyberbullying and a highlight of connection between children's sexuality and the use of Internet (according to: http://www.dijete.hr/en/home/628-konferencija-u-stockholmu-djeca).

Ti Counseling Center from Rijeka has conducted a survey on violence on the Internet and the results have shown that the problem of children safety on the Internet is real and that children who frequently use Internet and whose activities are research-based, are at greater risk of unwanted sexual content (according to: http://www.husr.hr/hr/poster-prezentacije).

Susan Greenfield, a scientist (2009) argues that Websites like Facebook and Twitter alienate young people from real social skills. She suggests that the cause is instant- pleasure on social networks, which makes adolescents focused only on themselves. This claim appears to be in contradiction with the fact that Facebook communication connects millions of people. However, many parents and teachers have stood by the claims of the scientists, complaining about how young people find it more difficult to pay attention and stay focused on anything outside their computer screen. In Europe alone, social lives of more than 150 million Facebook users take place exclusively on Facebook, through which they are in contact with friends, share photos and videos with them, and write about their concerns and life events. Over 6 million people have signed up for Twitter's microblogging service, which can be used for exchanging text messages about themselves. A growing number of scientists consider this to bring more harm than good. Once they get off the sites and meet on the street, young people do not communicate as openly as they do on the computer (according to: http://sites.google.com/site/drdangvu/psychiatrie/dependance-a-internet-internet-addiction-disorder-iad). Oxford University scientist, Baroness Greenfield, thinks that constant exposure to social tools on the Internet, computer games, chat rooms and instant messaging dumbs the brain down to a level of a small child; it is attracted to buzzing sounds and bright lights, has short attention and lives in the moment.He has cited the example of autistic people: communication with people presents a problem for them, but the problem is reduced in front of a computer screen. He has also stated that this may be the reason for increase in autism

cases among young people, although there are still no evidence for this matter. Greenfield argues that brain can literally adjust to online content and that the brains of today's generations are significantly different from brains of those who were growing up 30 years ago (according to: http://travelnetplanet.com/hr/tips /2009/02/znanstvenici-upozoravaju-da-facebook-kvari-mlade.html).

RESEARCH
The aim of the research
The aim of this research is to explore the connection between the exposure to Internet content and students' violent behavior. Today, the Internet is a widely used electronic media among students which, an addition to offering a vast amount of information, also allows a wider range of unacceptable content.
On the Internet, students can encounter violence, pornography, racism, incitement of hatred and expose their personal information. Based on previous studies, it is known that there is an impact of such content on social development and behavior. Therefore, we wanted to examine the effect which the use of Internet has on students. Due to high tolerance of parents and the society, students are increasingly exposed to violent content, and Internet violence is more dangerous than traditional violence. Studies are still relatively rare, which suggests the feasibility of this research.

Hypotheses
H1= There is a statistically significant connection between students committing violence online and committing violence in school
H2= There is a statistically significant correlation between experiencing and committing violence on the Internet among students

1.1.   The sample
In order to find answers, there has been a survey conducted in natural conditions among students of the eighth grade of primary school and fourth grade of high school (Re ica Primary School, Seljan brothers Primary School, Banija Primary School, Dubovac Primary School, Technical School in Karlovac and Karlovac Gymnasium). The study included 190 primary school students and 174 high school students, with a total number of 364 respondents.

Instruments
The study included a Hrabri telefon/Brave Telephone Asssociation and Child Protection Center of Zagreb's questionnaire: *Adolescents' Experience regarding the use of Internet, mobile phones and other modern technology* (2008) and *School violence questionnaire* (USN-2003) by Buljan- Flander, Karlovi and Štimac (2003) and Protection Center of Zagreb. Questionnaires were modified for the purpose of this research.

THE RESULTS OF THE RESEARCH
The connection between violence among students committed online and violence among students committed in school

We have calculated a bivariate correlation analysis for each pair of variables using the non-parametric correlation coefficient for ordinal data (Spearman Correlation Coefficient). All correlation coefficients are shown in the table, with significant correlation being in bold.

Table 1 Presentation of correlation coefficients between variables: violence among students committed online and violence among students committed in school

	p17_1	p17_2	p17_3	p17_4	p17_5	p17_6	p17_7
p14_1	0,247**	0,261**	0,261**	0,263**	0,332**	0,228**	0,236**
p14_2	0,274**	0,323**	0,263**	0,240**	0,307**	0,225**	0,282**
p14_3	0,183**	0,200**	0,174**	0,246**	0,330**	0,218**	0,250**

**   p<0,01; df=362

LEGEND:
p14_1   Have you ever misused someone's name and posted someone else's private information and secrets on chat, blog or website?
p14_2   Have you ever posted someone else's image or video without his or her consent, on order to make fun of him/her?
p14_3   Have you ever falsely presented yourself as a person you know and spoke mean things in his or her name on chat, blog or website?
p17_1   I have insulted other students, and said mean things to them.
p 17_2   I have threatened other students that I would do something bad to them.
p17_3   I have said mean things about a student.
p17_4   I have hit and pushed another student.
p17_5   I have beaten someone up very hard.
p17_6   We have banned someone from joining us in a game.
p17_7   I have taken and destroyed someone else's stuff.

All cross-correlations between the set of variables in particle 14 and set of variables in particle 17 are positive and equally directed. The levels of correlation are low (with the highest being 0,330). However, all correlation coefficients have been statistically significant.

To determine what kind of relations are there between these particles, some additional analysis were made on the connection between these two sets of variables. (χ2- test and Gamma Coefficient). Chi- square tests if there is a statistically significant probability of the connection between the variables while Gamma Coefficient indicates the strength of the correlation between ordinal data. Value of χ2 and Gamma Coefficients are presented in Table 2(significant values are in bold).

Table 2 Presentation of the significance of the connection between variables: violence among students committed online and violence among students committed in school

	t^2	p	Gamma Coefficient	p
p17_1 x p14_1	26,813*	0,000	0,565*	0,000
p17_1 x p14_2	32,630*	0,000	0,562*	0,000
p17_1 x p14_3	20,604*	0,000	0,444*	0,001
p17_2 x p14_1	34,985*	0,000	0,580*	0,000
p17_2 x p14_2	56,644*	0,000	0,636*	0,000
p17_2 x p14_3	40,641*	0,000	0,487*	0,002
p17_3 x p14_1	28,350*	0,000	0,582*	0,000
p17_3 x p14_2	39,411*	0,000	0,531*	0,000

p17_3 x p14_3	**16,962***	**0,002**	**0,414***	**0,003**
p17_4 x p14_1	**33,974***	**0,000**	**0,578***	**0,000**
p17_4 x p14_2	**36,307***	**0,000**	**0,504***	**0,000**
p17_4 x p14_3	**42,283***	**0,000**	**0,565***	**0,000**
p17_5 x p14_1	**49,944***	**0,000**	**0,733***	**0,000**
p17_5 x p14_2	**44,515***	**0,000**	**0,689***	**0,000**
p17_5 x p14_3	**41,143***	**0,000**	**0,742***	**0,000**
p17_6 x p14_1	**34,495***	**0,000**	**0,518***	**0,000**
p17_6 x p14_2	**25,669***	**0,000**	**0,473***	**0,000**
p17_6 x p14_3	**34996***	**0,000**	**0,517***	**0,001**
p17_7 x p14_1	**33,671***	**0,000**	**0,581***	**0,001**
p17_7 x p14_2	**35,956***	**0,000**	**0,618***	**0,000**
p17_7 x p14_3	**43,966***	**0,000**	**0,620***	**0,001**

** $p < 0,05$

LEGEND:
p14_1   Have you ever misused someone's name and posted someone else's private information and secrets on chat, blog or website?
P14_2   Have you ever posted someone else's image or video without his or her consent, on order to make fun of him/her?
P14_3   Have you ever falsely presented yourself as a person you know and spoke mean things in his or her name on chat, blog or website?
P17_1   I have insulted other students, and said mean things to them.
P 17_2   I have threatened other students that I would do something bad to them.
P17_3   I have said mean things about a student.
P17_4   I have hit and pushed another student.
P17_5   I have beaten someone up very hard.
P17_6   We have banned someone from joining us in a game.
P17_7   I have taken and destroyed someone else's stuff.

The obtained results show that all variables are statistically significantly, and moderately to strongly positively correlated, thus we can conclude that there is a statistically significant correlation between sets of variables of particles 14 and 17. We can conclude that there is no doubt in the statistically significant correlation between these two sets of variables; therefore, the hypothesis H1 is accepted.

The connection between experiencing and committing violence on the Internet among students

We have calculated a bivariate correlation analysis for each pair of variables using the non-parametric correlation coefficient for ordinal data (Spearman Correlation Coefficient). All correlation coefficients are shown in the Table 3, with significant correlations being in bold.

Table 3 Presentation of correlation Coefficients between variables: experienced and committed violence on the Internet among students

	p13_1a	p13_2a	p13_3a	p13_4a	p13_5a
p14_1	**0,200****	**0,151****	**0,147****	**0,262****	0,087
p14_2	**0,213****	**0,182****	**0,280****	**0,198****	0,084
p14_3	0,102	**0,151****	0,082	**0,251****	**0,113***

**   p < 0,01
*   p < 0,05

LEGEND:
P13_1a   Has someone on the Internet ever been rude or harsh to you?
P13_2a   Has some written about you, or posted secrets or lies about you?
P13_3a   Has anyone posted your photos or videos together with mean comments?
P13_4a   Have you ever experienced that someone has talked or written in your name?
P14_1   Have you ever misused someone's name and pubished someone else's private information on chat, blog or Website?
P14_2   Have you ever posted someone else's image or video without his or her consent, on order to make fun of him/her?
P14_3   Have you ever falsely presented yourself as a person you know and spoke mean things in his or her name on chat, blog or website?

All cross-correlations between the set of variables in particle 13 and set of variables in particle 14 are positive and equally directed. The levels of correlation are very low (with the highest being 0,280). Despite of low values, only four of them are not statistically significant.

Values of χ^2 and Gamma Coefficient are shown in Table 4 (significant values are in bold).

Table 4 Presentation of the significance of the connection between experienced and committed violence on the Internet among students

	t^2	p	Gamma Coefficient	p
p13_1a x p14_1	**16,128***	0,000	**0,594***	0,000
p13_1a x p14_2	**16,524***	0,000	**0,544**	0,000
p13_1a x p14_3	3,882	0,144	**0,304***	0,045
p13_2a x p14_1	**8,768***	0,012	**0,378***	0,007
p13_2a x p14_2	**13,967***	0,001	**0,418***	0,002
p13_2a x p14_3	**8,294***	0,016	**0,393***	0,009
p13_3a x p14_1	**13,926***	0,001	**0,427***	0,025
p13_3a x p14_2	**38,142***	0,000	**0,629***	0,000
p13_3a x p14_3	**11,794***	0,003	0,275	0,188
p13_4a x p14_1	**26,494***	0,000	**0,611***	0,000
p13_4a x p14_2	**15,379***	0,000	**0,456***	0,001

p13_4a x p14_3	**25,302***	0,000	**0,610***	0,000
p13_5a x p14_1	2,740	0,254	0,251	0,129
p13_5a x p14_2	2,610	0,271	0,223	0,133
p13_5a x p14_3	4,962	0,084	0,331	0,055

* $\quad$ p $< 0,05$

<u>LEGEND:</u>

P13_1a $\quad$ Has someone on the Internet ever been rude or harsh to you?
P13_2a $\quad$ Has some written about you, or posted secrets or lies about you?
P13_3a $\quad$ Has anyone posted your photos or videos together with mean comments?
P13_4a $\quad$ Have you ever experienced that someone has talked or written in your name?
P14_1 $\quad$ Have you ever misused someone's name and pubished someone else's private information on chat, blog or Website?
P14_2 $\quad$ Have you ever posted someone else's image or video without his or her consent, on order to make fun of him/her?

P14_3 Have you ever falsely presented yourself as a person you know and spoke mean things in his or her name on chat, blog or website?

Variables p13_2 a and p_13_4 are statistically significantly correlated with variables of the particle 14. A level of correlation varies from low to moderate.

The obtained results show a statistically significant correlation between sets of variables in particles 13 and 14. The only exception is 13_5a variable. The correlation is positive, and its level is low to moderate, therefore hypothesis H1 is partially accepted.

CONCLUSION

Research results have indicated that students who have on the Internet: misused someone else's name and posted private information and secrets, posted someone's images or video without their consent in order to mock them, falsely represented themselves as a person they know, said mean thing in their name, have offended other students in schools, threatened other students and talked bad about other students unlike students who have not behaved violently on the Internet. There is a statistically significant correlation between students participating in violent behavior on the Internet and participating in violent behavior in school.

Students who have experienced someone writing about them, posting their secrets and lies about them, representing themselves as them and writing in their name, have to some extent misused someone else's name, posted someone else's secrets and information, posted someone's image or a video without their consent in order to mock them, falsely represented themselves as someone they know and said mean things in their name, unlike students who have not experienced such unpleasant situations.

The consequences of violence on the Internet can sometimes be even more serious than of which happened in real- life situations. In violence on the Internet, there is a power of a written word, because the victim can re-read what the bully wrote about them, and insults in verbal form can easily be forgotten. A written word acts more concrete and realistic than the spoken one.

In order to prevent the overcome of negative effects of Internet content on students, it is necessary to raise awareness of the role of parents. They need to set clear rules when it comes to use of Internet services, regarding time spent on the computer, appropriateness of the content, continuously monitor their children and set computer protection programs that filter and block inappropriate websites.

Furthermore, prevention of violence is possible with education on electronic media. Together with educating students, there is also a need for educating parents and modernizing of the curriculum. The curricula need to include studying about Internet and allow training for teachers in this segment. Students must become qualified for responsible thinking and criticism toward electronic media and understanding the boundaries between real and virtual worlds. This way, students can get a different picture of violence, develop greater understanding for emotional states of others, and become more tolerant and considerate. Students need to learn that they play an active role of media consumers who can publicly express their opinions, but also have respect for opinions of others.

Given that there is a small number of research on the topic of violent behavior on the Internet and in school, certain segments of the research results are in accordance with the results of other studies on the same subject, while some have not found its confirmation in past studies. This study should alarm the public that education on electronic media is necessary because that is the only way we can protect children from daily negative influences that they are exposed to on the Internet.

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