

Life Satisfaction and School Performance of Children Exposed to Classic and Cyber Peer Bullying

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ABSTRACT

This paper analyses the relationship between the exposure of school children to various forms of peer bullying (classic/cyber) and their life satisfaction in the domain of school, family, friends and school performance. The sample included 562 children from rural and urban areas of Croatia who were attending the seventh and the eighth grade of primary school. Results show that children were more often exposed to classic forms of peer bullying, especially verbal, and then physical bullying. On the other hand, cyber bullying most often comprises harassment in forums, blogs, chats or social networks, then on the web, by e-mail and mobile phone. Almost half of the examinees knew the identity of the bully, while a minority believes that bullies are the same ones who also physically abuse them at school. We found that children exposed to all forms of both classic and cyber bullying, unlike their peers who do not have such experience, show less satisfaction with friends, while those exposed to physical and cyber bullying show dissatisfaction with their family, too. However, no statistically significant difference was found in their satisfaction with school. Children exposed to physical bullying showed poorer school performance, poorer achievement in Croatian and math, while children exposed to verbal and cyber bullying and children who were not exposed to such forms of bullying showed no differences in their school achievement.

Key words: peer bullying, cyber bullying, life satisfaction, school achievement

Introductory Considerations

In the past thirty years, scientists, parents, teachers and especially children have been preoccupied with the problem of peer bullying. The emergence of new interactive communication technologies, has changed the nature of bullying, which now takes new forms. Its exponential growth is of significant concern¹.

Peer bullying is commonly defined as deliberate, hostile and repeated abusive behaviour of one or more children of unequal real or perceived physical strength, or psychological or social power, causing the child, who cannot resist and defend, physical and/or emotional harm.

The spectrum of abusive behaviours against peers, expanding on a daily basis, includes the following most commonly distinguished: a) physical bullying including any physical act with the potential of harming the other (pushing, pulling, pinching, slapping, punching) and b)

verbal bullying, i.e. deliberate use of words to inflict psychological harm (shouting, insulting, calling names, causing fear by threatening). These forms are direct or open and belong to classic peer bullying^{1,2}, which are accompanied by more subtle indirect or covert forms of bullying.

Students inclined to such behaviours, including spreading rumours, slander and lies, untrue stories, try to harm the victim, cause pain or deteriorate close and friendly relationship and yet remain undetected. In such cases we talk about relational aggression³, defined by Orpinas and Horne as emotional manipulation of peer relationships.

The advances in technology (mobile phones, computers, etc.) have increased the opportunities for practising relational aggression, which expanded classic forms of abusive behaviour, provided new ways and modalities of behaviour, and brought serious risks for the mental

health, safety and welfare of children⁶. Peer bullying, which includes the use of electronic devices for deliberate, hostile and repeated abusive behaviour towards individuals, intended at harming them, inflicting pain or damage, is usually called cyber bullying or online bullying⁵. This type of bullying is commonly manifested via SMS and MMS messages, e-mails, blogs, forums, networking pages, video messages and social networks (Facebook, MySpace, Twitter). The transformation of bullying from the real to the virtual world resulted in new forms like: online harassment, online threat, intimidation and blackmail, sending video messages, or creating internet pages with embarrassing content^{1,5,6}. Apart from these basic forms, exclusion from various online groups and identity theft have recently been mentioned.

Differences between Classic and Cyber Bullying

Classic bullying commonly appeared in the same physical space, usually at school, the bully could be identified and punished and the victim could respond and get protection. However, cyber bullying is indirect, without physical interaction, the victim does not have opportunities to defend and is available at every moment, while chances for the bully to be identified and exposed to social disapproval or punishment for bullying are minimal. Although both types of bullying are a) deliberate, b) repetitive and c) acts which inflict harm, there is a series of elements which make them different². Recapitulation of data from various studies^{1,2,5} showing elements of conceptual differences between classic and cyber bullying is presented in Table 1.

Some authors do not perceive these types as separate, attributing the primary difference to the use and nature of modern technologies which has only provided variations in peer bullying¹. Juvonen and Gross⁷ point out that cyber bullying enabled only the expansion of basic peer bullying, and Li¹ even recommends that cyber bullying should not be studied as separate entity.

While boys more often participate in direct forms of classic bullying, girls are more often both victims and

perpetrators of cyber bullying⁸. The use of direct physical and verbal abusive behaviours in early childhood, changes with maturation. Consequently, in higher grades of primary school, there is a noticeable trend of using less direct and more covert psychological forms of bullying⁹. Willians and Guerra¹⁰ report that fifth graders have the least experience of being victimised (4.5%), while the highest level of victimisation is in the eighth grade (12.9%), and the rate declines among high school students (9.9%). Tokunaga⁵ also concludes that cyber bullying is most manifested in the seventh and the eighth grade of primary school. It is, though, important to mention that children most often experience multiple victimisation. Ybarra, Diner-West and Leaf¹¹ emphasise that 36% of children, in a nationally representative sample, experienced traditional bullying simultaneously with cyber bullying, while Juvonen and Gross⁷ say that as high a rate as 85% of children and youth exposed to bullying experienced both classic and cyber bullying.

Chan notifies series of abusive behaviours, i.e. that the abusive cycle continues or is transferred from school to virtual environment¹². Those who are involved in peer bullying at school have more chance to be involved in cyber bullying¹³. It is certain that the opposite relation is also at work, cyber bullying being transferred to school environment¹⁴. Several studies suggest that a large number of children and youth (20–40%) are exposed to unfair and abusive behaviours of their school mates, the number constantly increasing due to the opportunities provided by new technologies⁵. Dramatic increase of cyber bullying is being theoretically explained by online disinhibition¹⁵, the most significant factor of the disinhibition effect considered to be the very anonymity which contributes to children's disclosing personal things, secrets or doing something they would never do or say in real life. Since they do not see the victim, online bullies do not have the feedback about the victims' emotional response and thus feel less guilt. Such form of communication creates a feeling of power and safety of unlikely identification, which is why the bully assumes that s/he will not be exposed to social disapproval, punishment or revenge¹⁵.

TABLE 1
DIFFERENCES BETWEEN CLASSIC AND CYBER BULLYING

	Classic bullying	Cyber bullying
Place where it happens	most commonly school	unknown location, can happen anywhere
Time when it happens	school time, commonly the daytime	»non-stop« bullying
Victim's availability	while at school	at any time
Effects	slow and limited	fast and wide-spread
Opportunities to defend or protect the victim	considerable	minimal
Bully's identity	known, likely to be identified	unknown unlikely to be identified
Availability of malicious information	known to a narrow circle of people during a relatively short period of time	known to a wide audience for a long time
Chances that the bully faces punishment or social disapproval	considerable	minimal

Classic peer bullying has attracted considerable scientific attention. However, since cyber bullying is a relatively new phenomenon, little is known about its short and long term consequences. Cyber bullying growing into a global problem affecting a large number of children, makes it necessary to research and compare its effects with those of verbal and physical bullying.

Beran and Li¹⁶ warn that embarrassment and stress experienced by children may have impact on their concentration and learning and impede on their memorising and joy in learning, all of these likely to affect school performance. Results of some studies confirm that children exposed to peer bullying have lower school achievements^{11,17}. Besides the confirmed consequences on school achievement and health (anxiety, depression), recent studies have been warning that exposure to bullying, especially to cyber bullying, has negative impact on psychosocial welfare of children and youth^{6,13,18}, and especially on life satisfaction¹⁹.

Life satisfaction is usually defined as a subjective evaluation of one's quality of life in its totality or in certain domains²⁰, and is achieved by having basic requirements, i.e. most important goals, needs and desires²¹ satisfied. If the most important needs are not met or if goals are not reached, it results in the feeling of unhappiness. General life satisfaction is determined by summing up domain-specific satisfactions in various domains of life, e.g. family, school, friends (bottom-up model) which in return influences the evaluation of satisfaction in specific domains²¹.

Life satisfaction, as an important component of subjective welfare is at the same time an indicator of social and emotional functioning of children and adolescents^{20,22}. Thus the experience of being victimised at school may diminish general life satisfaction of the child and hinder him/her reaching certain school or life goals¹⁹.

The fact that there is a relatively small number of studies into the issue of being bullied and psychosocial welfare, inspired us to analyse the relationship between the exposure to various types of peer bullying (classic/cyber) and life satisfaction in the domains – school, family, friends and school achievement.

Methodology

Aims

Aim of this study is to examine the relationship between the exposure to various forms of classic and cyber bullying and a) adolescents' satisfaction with the family, school and friends and b) school achievement.

Problems

In accordance with the aim, we defined the following problems to research:

1. Determine the exposure of examinees to various forms of classic and cyber bullying.

2. Analyse the relationship between the classic and cyber bullying and adolescents' satisfaction with friends, family and school, as well as their school achievement.

Sample

Sample consisted of 562 children, or 293 girls (52.1%) and 261 boys (46.4%) while 8 examinees did not mark their gender in the questionnaire. Average age of the examinees was 13 years and 8 months, (STD=0.71). Children attending the seventh grade made 47.9% (N=269), and those attending the eighth grade made 52.1% (293) of the sample from rural and urban areas in the Republic of Croatia.

Instruments

Three instruments were used to collect the data:

1. Questionnaire of general biographical variables including age, gender, grade and general school achievement and achievement in Croatian and math in the current school year.

2. Questionnaire on the exposure to classic and cyber forms of bullying, adapted from similar questionnaires^{23–25} for the needs of this study. The subscale of physical bullying consisted of six questions (e.g.: I hit another child), while the subscale of verbal bullying consisted of two questions (e.g.: How often were bad things about you said?). Subscale of cyber bullying consisted of a series of questions inquiring into the exposure to cyber bullying via text messages, embarrassing materials on the web and experienced embarrassment on forums, blogs or social networks. Children estimated how often some form of bullying happened to them during the school year (never, only once, two or three times, once a week, more than once a week), and in cases of cyber bullying, who the bully was, if s/he was from their school and if s/he behaved abusive at school.

3. Multidimensional Students' Life Satisfaction Scale – MSLSS by Huebner²⁶ designed for subjects aged 8 to 18 was administered to evaluate life satisfaction. On a five level scale (almost always to never), children evaluated their satisfaction in three domains: family, school, friends. The original scale has five subscales, but in this study we used three subscales, which examine satisfaction with the family (7 items), with school (8 items) and with friends (9 items). High internal consistency of this scale, noticed in other studies (20), was confirmed, and Cronbach α coefficient of internal consistency was for subscales: a) satisfaction with the family $\alpha=0.88$; b) satisfaction with friends, $\alpha=0.85$; c) satisfaction with school, $\alpha=0.80$.

Procedures

Research was conducted with the consent of parents, principals and school ethical committees. Children participated anonymously on voluntary basis. Aim and purpose of the study together with the glossary of used words and expressions were circulated as general instructions. Administration of the questionnaire was in groups (classes) and was not time-limited.

Results

Exposure to classic and cyber bullying

Table 2 shows the frequency of answers to the question: »How often has it happened to you during this school year?« i.e. the results of exposure to classic and cyber bullying among the participants of the research.

Results show that children were most frequently exposed to verbal bullying, as many as 80.3% of children experienced some form of verbal bullying from their peers during the school year, and 14.8% of them experienced it more than once a week. Physical bullying was experienced during that school year by 45.4% of participants, with 5.7% of participants who experienced it more than once a week.

Among various forms of cyber bullying, children were most often exposed to embarrassment on the forum, blog, or social network (38.4%), then to embarrassing content or photos on the web (32.4%) and harassed by messages sent by e-mail and mobile phone (29.9%).

Answers to the question if children knew the identity of the bully, if the bully attended the same school and whether s/he was abusive towards them at school, too, provided the following results (Table 3).

As Table 3 shows, almost half of the participants (46.6–57.0%) knew who the cyber bully was, a little less than a half (32.6–47.7%) said that the bully attended the same school, and a smaller portion of participants said that the bully was abusive at school, too.

Results of correlation analysis

Before conducting main analyses, we calculated inter-correlations between various forms of peer bullying and students' life satisfaction in three aspects of their lives as well as their school achievement.

Moderate correlations between three forms of cyber bullying: a) bullying with text messages and exposure to embarrassment on the web ($r=445$), embarrassment on forums and network pages ($r=433$), exposure to embarrassing content on the web and on forums, blogs and social networks ($r=447$) ($p<0.01$), allows for pooling of research results. Cronbach alpha of pooled index is 0.70.

Having conducted the correlation analysis between various forms of classic (verbal and physical) and cyber bullying, we found moderate correlation between these forms of bullying, although it is a bit higher between physical and verbal bullying ($r=407$) and verbal and total cyber bullying ($r=381$), and lowest between physical and total cyber bullying ($r=291$) ($p<0.01$). The results of analyses also show that correlations between satisfactions (family and school $r=0.28$; family and friends $r=0.29$; friends and school $r=0.18$) are significant ($p<0.01$), but low.

Even the various aspects of school achievement show moderate correlation between each other (general school achievement and math $r=0.79$); general school achievement and Croatian $r=0.76$); math and Croatian $r=0.74$); ($p<0.01$) which is within the scope of expectations.

Exposure to classic and cyber bullying: effects on satisfaction with friends, family and school

To research into how classic and cyber bullying affect life satisfaction of children and their school achievement, for each form of bullying, the participants were divided into two categories: those who had been exposed to bullying once or more times and those who had never been exposed to bullying. So formed groups were compared by a series of criterion variables.

As Table 4 explicitly shows, children exposed to physical bullying showed lower satisfaction with their family

TABLE 2
EXPOSURE TO CLASSIC AND CYBER BULLYING

Form of bullying	Never	Only once	Two or three times	Once a week	More than once a week
Exposure to physical bullying	54.6%	19.6%	14.6%	5.7%	5.7%
Exposure to verbal bullying at school	19.7%	19.3%	35.6%	10.6%	14.8%
Cyber bullying: text messages by e-mail or mobile phone	70.1%	15.1%	8.9%	3.3%	2.6%
Cyber bullying: embarrassing content or photos on the web	67.6%	19.2%	9.7%	1.5%	2.0%
Cyber bullying: embarrassment on forums, blogs, chats or social networks	61.6%	21.7%	1.5%	3.5%	1.4%

TABLE 3
KNOWING THE CYBER BULLY

Forms of cyber bullying	Knowing the bully	Bully attends the same school	Bully is abusive at school, too
Abusive text messages via the e-mail and mobile phone	46.6%	32.6%	13.4%
Embarrassing content or photos on the web	57.0%	47.7%	11.8%
Embarrassment on the forum, blog, network	55.6%	44.0%	10.2%

TABLE 4
EXPOSURE TO VARIOUS FORMS OF BULLYING AND LIFE SATISFACTION

		Not exposed \bar{X} M (STD)	Exposed to bullying \bar{X} M (STD)	t	p
Exposure to physical bullying	Satisfaction with the family	4.18 (0.81)	4.04 (0.81)	2.18	0.03
	Satisfaction with friends	4.23 (0.53)	3.96 (0.66)	5.31	<0.001
	Satisfaction with school	2.98 (0.74)	2.87 (0.74)	1.55	0.12
Exposure to verbal bullying	Satisfaction with the family	4.23 (0.86)	4.09 (0.80)	1.53	0.13
	Satisfaction with friends	4.30 (0.53)	4.06 (0.62)	4.12	<0.001
	Satisfaction with school	3.05 (0.83)	2.92 (0.72)	1.42	0.16
Exposure to cyber bullying	Satisfaction with the family	4.24 (0.80)	4.04 (0.81)	2.82	0.005
	Satisfaction with friends	4.20 (0.56)	4.03 (0.64)	5.31	0.003
	Satisfaction with school	3.01 (0.74)	2.88 (0.72)	1.55	0.09

and lower satisfaction with friends than children not exposed to bullying. No significant difference between the two groups of participants was found in satisfaction with school.

Children exposed to verbal bullying showed lower satisfaction with friends than children not exposed to bullying. No significant difference between the two groups of participants was found in satisfaction with the family and satisfaction with school.

However, it should be noted that in both groups satisfaction with school was lower than satisfaction with the family and with friends. That pattern was repeated throughout.

Students exposed to cyber bullying reported lower satisfaction with the family and with friends than children not exposed to bullying. No significant difference between the two groups of participants was found in satisfaction with school, and in both groups satisfaction with school was lower than satisfaction with the family and with friends.

Exposure to classic and cyber bullying and school achievement

Children exposed to physical bullying had poorer school achievement, achievement in Croatian and in math. No significant difference between the children exposed to verbal bullying and those not having such experience was found in school achievement, achievement in Croatian and in math. Neither did children exposed to cyber bullying show differences in school achievement, achievement in Croatian and in math compared to those not exposed to cyber bullying.

Comparison of effects caused by various forms of bullying

Three discriminant function analyses were conducted on the same variables to compare the effects caused by cyber bullying on satisfaction with various aspects of life and school achievement with effects caused by physical and verbal bullying in school. Children who were exposed

to bullying were, in each of the analyses, compared with children not exposed to bullying in variables of satisfaction and school achievement.

Physical bullying

Linear discriminant analysis resulted in significant discriminant function (characteristic root=0.09; Wilk's lambda=0.92, $r_c=0.29$; $df=6$; $\chi^2=34.30$; $p<0.001$).

Positive pole of the discriminant function which best discriminates between the two groups of participants is primarily marked by high results on the scale of satisfaction with friends, satisfaction with the family and school achievement. Group centroids in discriminant function analysis which show the result of participants not exposed to physical bullying at 0.27 and those exposed to physical bullying at -0.33 are in compliance with these data (and with the univariate analyses).

On the basis of satisfaction with these aspects of life and school achievement, 62.7% of participants could be classified in the related group regarding exposure to physical bullying which was an improvement of 12.7% in relation to case distribution.

Verbal bullying

Linear discriminant analysis resulted in significant discriminant function (characteristic root=0.05, Wilk's lambda=0.96, $r_c=0.21$; $df=6$; $\chi^2=18.02$; $p=0.006$).

Higher results on the discriminant function which best discriminates between the two groups of participants was primarily marked by high results on the scale of satisfaction with friends. It is in compliance with the results of the univariate variance analysis and manifests in group centroids in the discriminant function which showed the result of participants not exposed to verbal bullying at 0.45 and those exposed to verbal bullying at -0.13.

On the basis of discriminant variables, 62.0% of participants could be classified in the related group regarding the exposure to verbal bullying which was an improvement of 12.0% in relation to case distribution.

TABLE 5
EXPOSURE TO VARIOUS FORMS OF BULLYING AND SCHOOL ACHIEVEMENT

		Not exposed M(STD)	Exposed to bullying M(STD)	t	p
EXPOSURE TO PHYSICAL BULLYING	School achievement	4.19 (0.76)	3.98 (0.84)	3.14	0.002
	Achievement in Croatian	3.84 (1.01)	3.62 (1.06)	2.41	0.017
	Achievement in math	3.43 (1.15)	3.11 (1.11)	3.26	0.001
EXPOSURE TO VERBAL BULLYING	School achievement	4.06 (0.89)	4.10 (0.79)	0.41	0.68
	Achievement in Croatian	3.70 (1.01)	3.74 (1.05)	0.35	0.73
	Achievement in math	3.37 (1.14)	3.25 (1.14)	0.96	0.34
EXPOSURE TO CYBER BULLYING	School achievement	4.08 (0.81)	4.13 (0.80)	0.69	0.49
	Achievement in Croatian	3.79 (1.00)	3.72 (1.08)	0.85	0.40
	Achievement in math	3.32 (1.18)	3.26 (1.11)	0.57	0.57

TABLE 6
DISCRIMINANT STRUCTURE – CORRELATIONS BETWEEN
DISCRIMINANT VARIABLES AND DISCRIMINANT FUNCTION

	Correlation with discriminant function
Satisfaction with friends	0.776
Satisfaction with the family	0.582
School achievement	0.461
Achievement in math	0.419
Satisfaction with school	0.275
Achievement in Croatian	0.254

TABLE 7
DISCRIMINANT STRUCTURE – CORRELATIONS BETWEEN
DISCRIMINANT VARIABLES AND DISCRIMINANT FUNCTION

	Correlation with discriminant function
Satisfaction with friends	0.741
Satisfaction with the family	0.385
School achievement	0.378
Achievement in math	0.311
Satisfaction with school	-0.039
Achievement in Croatian	0.009

Cyber bullying

Linear discriminant analysis resulted in significant discriminant function (characteristic root=0.04, Wilk’s lambda=0.97, $r_c=0.19$; $df=6$; $\chi^2=13.69$; $p=0.033$).

Higher results on the discriminant function which best discriminates between the two groups of participants was primarily marked by high results on the scale of satisfaction with friends, but also on the scale of satisfaction with the family. It is in compliance with the results of the univariate variance analysis and manifests in group centroids which showed the result of participants

TABLE 8
DISCRIMINANT STRUCTURE – CORRELATIONS BETWEEN
DISCRIMINANT VARIABLES AND DISCRIMINANT FUNCTION

	Correlation with discriminant function
Satisfaction with friends	0.739
Satisfaction with the family	0.716
School achievement	0.435
Achievement in math	0.234
Satisfaction with school	0.144
Achievement in Croatian	-0.013

exposed to cyber bullying at 0.20 and those not exposed to this form of bullying at -0.18.

On the basis of discriminant variables, 58.8% of participants could be classified in the related group regarding the exposure to cyber bullying which was an improvement of 8.8% in relation to case distribution.

In conclusion, we may say that discriminant variables in both groups discriminate the participants relatively poor. Still, there is a trend of variables to better discriminate between those exposed to physical bullying and those not exposed to physical bullying, than they discriminate between the participants exposed and those not exposed to cyber bullying (the group of participants exposed to verbal bullying is somewhere in between). Specifically, the effect of these forms of bullying on discriminant variables is relatively poor. However, there is a trend showing that the effect of physical bullying is stronger than the effect of cyber bullying, with the verbal bullying somewhere in between.

Discussion

Prevalence of various forms of abuse

Results of the research confirm that classic peer bullying is frequent. Almost half of the examinees have experienced some form of bullying during the current

school year, and 11.1% of them several times a week. The result of 80.3%, of children experiencing some form of verbal bullying from peers, many of them several times a week, calls for special attention. Dominance of verbal bullying among peers can be explained with it becoming, in a way, socially acceptable form of behaviour. Little is known and there is little debate about its harmful effects, so it is exactly this form, which may be the initial impulse for the onset of bullying, that needs special attention in preventive actions.

For a comparison, Stockdale et al.²⁷ indicate that 66% of children attending primary schools in the USA were experiencing some form of physical bullying and 76% were exposed to verbal peer bullying during the current school year.

With regard to cyber bullying, children are most likely to experience embarrassment on forums, blogs, chats or social networks, which may be due to the popularity and more frequent use of these media. More than one third of the children report about the exposure to embarrassing content or photos on the web, and little less than one third have experienced harassment through text messages received via the e-mail or mobile phone. Similar results have been reported by Tokunag⁵ pointing out that 20–40% of children and youth were exposed to violent acts by their peers via electronic devices, while others^{8,10,14} estimate that the prevalence is 10–35%, and Juvonen and Gross⁷ warn about significantly higher rates.

Results relating to weekly exposure to cyber bullying are compliant with results indicated by Patchini and Hinduja² that at least 5% of children have been victimised by their peers daily and they assume that the percentage is significantly higher. In cases of cyber bullying it is difficult to obtain precise data due to the phenomenon of multiplication. The exposure of the child to one form of bullying by one peer, e.g. insulting, being endorsed by others' voting, comments and similar in the virtual world, reiterates and multiplies bullying, and the frequency is difficult to assess. Exactly the phenomenon of multiplication is one more element that makes the difference between cyber and classic bullying. Despite the fact that it is difficult to assess it and use the wide range of conceptualisations and research instruments, which impedes on the comparison of results, data about the exposure to classic and cyber bullying during the school year, and especially data about the weekly frequency, are disturbing. Lower participation of cyber bullying in comparison to physical and verbal, can be explained by these: a) students' perception that it is less real and thus less significant; b) some treat it as a joke²⁸; c) some do not perceive it as abuse.

One of possible explanations of such results lies in the fact that the research was conducted among the seventh and the eight graders who are considered to be most prone to such behaviour⁵. The developmental period in which these children are may be a factor which contributes to the expansion of this problem. More specifically, pronounced need of adolescents for recognition, to win a social status and power and dominate over others, which

may make them very popular, and the tendency of others to join them due to their need to be accepted, or to not be rejected, may contribute to the diffusion of abusive behaviour. Permanent availability and anonymity providing a sense of safety and a belief that the chance of disapproval or punishment is minimal, contributes to the addition of cyber bullying to the classic forms of peer bullying. Although communication technology can serve children victims as self-protective and a way to neutralise negative emotions¹⁶, it is more than rarely used as a means of revenge to perpetrators. Thus children who are physically weaker or psychologically less powerful can become abusive through the electronic media. Exactly the sweeping of this disbalance in power, which is a criterion in defining peer bullying, is one of the characteristics of cyber bullying.

Obtained results also suggest that bullies use electronic devices to continue with their activities commenced in real environment and support the thesis about cycles of violence transferred from school to the virtual environment and vice versa^{12,14} and that students involved in classic forms of abuse often participate in cyber bullying¹³. Special attention has to be paid to the possibility that the cycle of abuse, dissatisfaction and repeated abuse can be perpetuated. Compliant with other studies^{8,28}, obtained results show that cyber bullying often happens within peer groups without adults' access since almost half of the children knew who sent them abusive test messages via the e-mail or mobile phone, who published embarrassing content or photos on the web or who behaved abusively on the forum, chat or social network, and 33–44% of them report that these were their school mates. Other recent studies⁸ also emphasise that victims (40–50%) knew the identity of the bully. It is very likely that individuals within same groups have a tendency to encourage each other and participate in similar levels of abusive behaviours²⁹, and sometimes brag about it in order to add to their popularity and importance. Bullying in such groups seems fully acceptable, and it is known that peer norms and attitudes may have a strong influence on abusive behaviours¹⁷.

Exposure to bullying and students' satisfaction with friends, family and school

Univariate variance analysis found that children exposed to classic and cyber bullying, compared to their peers who do not have such experience, showed less satisfaction with friends, while children exposed to physical and cyber bullying reported dissatisfaction with their family, too. No significant difference was found between the groups in satisfaction with school, but it is necessary to note that satisfaction with school is much lower than satisfaction with family and friends. Obtained result was expected and is compliant with results from similar studies which confirm that children who had negative school experience had a lower perceived feeling of quality of life¹⁹.

Since in adolescence the relationship with peers is overly important, it is logical to expect that abuse, as the

strongest form of expressing hostility regardless of whether it is classic or cyber bullying, will affect life satisfaction in general, with special expression in the domain of friendship. Considering that friendship is characterised by intimacy, loyalty, mutual attraction and confiding, the experienced abuse inevitably results in distrust and insecurity, vulnerability¹⁹ and dissatisfaction. All these lead to new difficulties in bonding and maintaining good relationships with peers and creating friendships^{6,19}. Inasmuch as children learn about themselves and others in the world in which they live through relationships with their peers, positive experience in this domain will significantly affect their functioning in social relationships and welfare during their lifetime. On the other hand, negative experience contributes to poorer social and emotional welfare²⁴.

Family is the important factor of the inclusion of children and their exposure to peer bullying. Family models from which children learn how to express and regulate emotions, resolve conflicts, communicate, have special effect on their behaviour towards their peers. Abusive and provocative behaviour towards others, if learned within the family, more than rarely puts them into position where they become victims of physical abuse or experience their peers' revenge via the electronic media. Abusive children more frequently specify that they have authoritative parents, inclined to conflict, uninterested in their child's life and activities, are lacking supervision, which is associated with children's participation in peer bullying²⁹. Hence, compliant with research²⁰, it is justified to conclude that low life satisfaction is more frequently found among adolescents who have conflicts and disagreements with their parents and where there are high levels of family stress. It is possible that dissatisfaction of the family affects dissatisfaction with peers which in return backlashes and projects into dissatisfaction with the family. On the other hand, the relationship parent – child, quality, open family communication and cohesion are emphasised as the most important predictor in all studies about the correlates and predictors of adolescents' life satisfaction³⁰.

Results of this research do not show differences in satisfaction with school between children exposed to all forms of bullying and those who do not have such experience. However, both groups are least satisfied exactly with school. Other studies confirm that adolescents are dissatisfied with school³, and satisfaction with school is lowest of all domains²⁰. It is obvious that all students are dissatisfied with school regardless of whether they have been exposed to peer bullying or not. Reasons for this dissatisfaction are probably deeper and further studies should research into them. School should function as a protective factor against peer bullying. When schools do nothing, or are inefficient in what they do, students naturally feel that their environment is not safe, feel unprotected, maybe frustrated. For some, it may be an opportunity to behave unfairly because there are no sanctions whatsoever, and for others, to fear and withdraw.

School achievement and exposure to bullying

Feeling of exposure induced by the fear of physical abuse, stressful and painful experience affect the ability to concentrate, memorise and learn³² and can, logically, have impact on the school achievement of children exposed to peer bullying. Besides the aforementioned, various negative feelings like sadness and fear of victimisation, lower self-confidence, as well as lower level of attachment to their school can affect school achievement, as confirmed in victims of peer bullying²⁹.

Results of this research suggest that exposure to physical abuse only is associated with school achievement. Research conducted by Beran¹⁷ also found significant but weak correlation between victimisation and school achievement, while Woods and Wolke³³ could not prove the existence of that correlation. It can be concluded that abuse is only one of the factors contributing to poor school achievement and that the relationship between bullying and school achievement is very complex. So, for example, Beran¹⁷ implicates that those students who had fewer friends and little opportunity for positive interactions with people were at higher risk for poor school achievement, and students who had poor parental and school support were low performers.

We can conclude that bullying does not originate from one source, but results from an interaction between more factors – personal, family, friends, school, as suggested by the ecological model. However, experienced abuse can probably leave marks in all mentioned domains of students' life.

Conclusion

High exposure of children to various forms of peer bullying in the course of a school year, and especially high rate of weekly exposure necessarily call for serious concern.

Obtained results suggest that cyber bullying often happens in closest social groups (class, school), and children involved in classic forms of bullying often participate in cyber bullying, too, i.e. they continue with their activities from the real into the virtual world, while their victims experience multiple victimisation. We can join the conclusions of those authors^{1,5} who claim that, regardless of its form, bullying is basically the same, only the modern technology created opportunities for it to be more cruel¹⁰ or more malignant and more harmful regarding its consequences, than classic bullying².

It is certain that a whole series of factors contribute to the described situation. The most prominent of these factors are: a) relationship with parents who are not sufficiently familiar with children's activities in the virtual world and b) absence of quality programmes for the prevention of bullying; c) school staff's, parents' and the society's inadequate response to bullying.

Exposure to peer bullying regardless of whether in classic or cyber forms, and especially their cumulative effect, can be associated with negative mental health, so-

cial and emotional outcomes, as well as with the welfare and satisfaction as one aspect of the welfare. Although the effect of exposure to the afore mentioned forms of bullying on satisfaction with friends and family is not major, we assume that it is significant and requires further research. We are supposing that the issue is a complex and multicausal relationship in which satisfaction or dissatisfaction with the family and at school can motivate fair or abusive relationships with peers, but also affect the behaviour of the child which leads to becoming a victim or a bully. Since school is the primary context of

peer bullying, a low level of satisfaction with school reported by all participants in this research is of special concern. School may generate abusive behaviour or subdue it by creating positive environment for learning, by fostering bonding and by teaching social skills and non-violent communication.

We hope that these warning data will motivate schools and the society to deal with this growing problem introducing efficient prevention and quality intervention programmes.

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ZADOVOLJSTVO ŽIVOTOM I USPJEH UČENIKA IZLOŽENIH KLASIČNOM I ELEKTRONIČKOM VRŠNJAČKOM NASILJU

SAŽETAK

U ovom radu analizira se odnos između izloženosti različitim vrstama međuvršnjačkog nasilja (klasično/elektroničko) i životnog zadovoljstva u domenama – škola, obitelj, prijatelji, te školskog uspjeha. U istraživanju je sudjelovalo 562 učenika sedmog i osmog razreda osnovnih škola iz ruralnih i urbanih sredina u Republici Hrvatskoj. Rezultati pokazuju da su učenici češće izloženi klasičnim vrstama vršnjačkog nasilja, osobito verbalnog, a potom i fizičkog. Od oblika elektroničkog nasilja najučestalije se neugodnosti doživljavaju na forumu, blogu, chatu ili društvenim mrežama, zatim na webu, te mailom i mobitelom. Gotovo polovina ispitanika je znala tko je nasilnik, a manji dio vjeruju da su to iste osobe koje su i u školi prema njima nasilne. Utvrđeno je da učenici izloženi svim oblicima klasičnog i elektroničkog nasilja, za razliku od svojih vršnjaka koji nemaju takva iskustva, iskazuju manje zadovoljstvo prijateljima, a izloženi fizičkom i elektroničkom nasilju iskazuju i nezadovoljstvo obitelji, no među skupinama nije utvrđena statistički značajna razlika u zadovoljstvu školom. Učenici izloženi fizičkom nasilju imaju slabiji opći uspjeh, uspjeh iz hrvatskog jezika i matematike, dok se učenici izloženi verbalnom i elektroničkom nasilju ne razlikuju prema školskom uspjehu od onih koji nisu izloženi takvim oblicima nasilja.

