Coll. Antropol. **37** (2013) 1: 11–16
Original scientific paper

Trauma Symptoms in Pupils Involved in School Bullying – A Cross Sectional Study Conducted in Mostar, Bosnia and Herzegovina

Edita Černi Obrdalj[1], Kristina Sesar[2], Žarko Šantic[3], Miro Klarić[4], Irena Sesar[5] and Mirjana Rumboldt[1]

[1] University of Mostar, School of Medicine, Department of Family Medicine, Mostar, Bosnia and Herzegovina
[2] Široki Brijeg Health Care Center, Široki Brijeg, Bosnia and Herzegovina
[3] University of Mostar, School of Medicine, Department of Introducrion to Medicine, Mostar, Bosnia and Herzegovina
[4] University of Mostar, School of Medicine, Department of Psychiatry, Mostar, Bosnia and Herzegovina
[5] Mostar University Hospital, Mostar, Bosnia and Herzegovina

A B S T R A C T

To determine the association between involvement in school bullying and trauma symptoms and to find whether children with presence of trauma symptoms participate in school bullying more as victims, as bullies or as bully/victims. The study included 1055, 6th to 8th grade (12–14 years of age) elementary school pupils from the western part of Mostar, The pupils were self-interviewed using a Questionnaire on School Violence developed in 2003 and validated in Croatia, and Trauma Symptoms Check List for Children (TSCC). The pupils involved in the school violence, either as victims, bullies, bully/victims had significantly more trauma symptoms than the not involved. Involvement in school bullying as a bully/victim was a strong indicator of trauma symptoms, particularly anxiety, anger, posttraumatic stress, dissociation, obvious dissociation, and dissociation fantasy symptoms, while the victims of school violence had the highest odds ratio for the development of depressive symptoms. There is strong association between bullying and trauma symptoms in young adolescents. From our results, emphasis should be placed at the regularly screening on bullying in praxis of family physicians and regularly conduction of preventive measures and early intervention in every primary school.

***Key words**: school bullying, trauma symptoms, depression, anxiety, posttraumatic stress, dissociation*

Introduction

Numerous studies confirm that bullying commonly occurs among children and adolescents. Bullying is understood as repeated, negative acts committed by one or more children against others. The children could be involved in school bullying as bullies, victims and bully/victims[1]. School bullying is a very traumatic life experience which can cause serious consequences in physical and mental health in childhood also in adulthood. The focus of former investigations was on connection of school bullying and depression, anxiety, self esteem and suicidal thoughts, and significant connections were found among bullies and their victims[2].

In Bosnia and Herzegovina (BH) there have been no systematic studies on school bullying. A previous study conducted among West-Herzegovinian pupils found 14% of them reported bullying experience, 4% assaulted their peers and 3% are bully/victims almost every day[3]. Purpose of the study was to determine presence of trauma symptoms in pupils who are involeved in bullying as pure bulies, pure victims and bully/ victims.

This study was conducted in Mostar, BH. Mostar was exposed to a recent, violent war followed by many unresolved political, national and economical problems. Therefore, it was a particular challenge to investigate the prevalence of bullying and its connection with trauma symptoms among primary school pupils in this troubled town. We hypothesized that the children involved in school bullying as bullies, victims or bully/victims are more traumtized than the children not involved in bullying.

Received for publication August 25, 2011

Materials and Methods

Databases

This cross-sectional study was conducted among 6th–8th grade (12–14 years of age) primary school pupils.

Due to Croatian majority these schools are following the Croatian educational program. The study included 1055 pupils, i.e. all those attending the classes on the testing day; 72 pupils were absent and one girl withdrew from testing. The age median was 13.0 years (interquartile interval 1.0) for boys and 13.0 (2.0) for girls, with no significant gender difference (Mann-Whitney p=0.061).

Although the questionnaire offered that possibility, nobody answered living with step-mother or step-father, so it may be assumed that »both parents« means a compact or reconstituted family. Information letters describing the aim of the study were forwarded to the pupils and to their parents as well. Since the testing was anonymous, the parents could not sign informed consents forms.

This study was preceded by a pilot one including 140 pupils of the same age.

The survey was performed on the end of May and beginning of June 2009, executed by the investigators with the help of local teachers and senior medical students. The aim of the study was clearly explained to the pupils and instructions for answering the questionnaire were given. The individual filing time averaged 35 minutes. All pupils in selected classes received questionnaires.

Questionnaires

Two different questionnaires were used: Questionnaire on School Violence, and Trauma Symptoms Check List for Children. The first one – Questionnaire on School Violence, based upon the revised Bully/Victim form authored in 1994 by Olweus[4], was developed in 2003, validated in a prior study[5] and published in 2008.[3] In addition to some demographic data, the questionnaire asked about frequency and rate of experiencing different types of bullying, which consisted of 11 parts (modes of aggressive behaviour) with the answers on a 3-point Likert scale as follows: 1 – never, 2 – sometimes or rarely 3 – almost every day. The modes of aggressive behaviour were the following: verbal offense, indecent words, malicious gossip, menace, touching the body in an offensive/unpleasant way, thrusting, beating, demolishing of belongings, money extortion, wounding and ignoring or excluding from games. As a bully was defined a pupil with one or more aggressive behaviours almost every day in the past few months; the victim had to experience one or more aggressive behaviours almost every day in the past few months, and the bully/victim was a pupil doing and suffering one or more aggressive behaviours almost every day in the past few months.

The Trauma Symptoms Check List for Children (TSCC) was used for assessment of trauma impact on children. We used TSCC version A which includes 44 items of full TSCC version except 10 items on sexual issues. The TSCC-A questions were offered in a test booklet it which the child directly writes his or her responses. The examinee had to mark from a list of thoughts, feelings and behaviours how often each of these things happened to him or her. Each item was rated on a 4 – item Likert scale, ranging from 0 (never) to 3 (almost all the time). For most pupils it took some 15–20 minutes to complete. TSCC-a contains a validity scale (over-response and under-response) and a clinical scale – anxiety (ANX), depression (DEP), anger (ANG), posttraumatic stress (PTS), and dissociation (DIS), with two subscales obvious dissociation (DIS-O), dissociation fantasy (DIS-F) and 7 critical items. The internal consistency was high for five of the six clinical scales (Cronbach α range 0.92–0.89). The results were considered clinically significant if the standardized T-value exceeded 65[6].

Input variables: gender, age, family structure, military involvement of father, domicility,

Output variables: pupils as bullies, victims, bully/victims and neutral; pupils with presence of one of the trauma symptoms listed before and pupils without any trauma symptoms.

Ethics

The study was approved by the Ethics Committee of Mostar University School of Medicine and by the county Ministry of Science, Education and Sports. The authors of the questionnaire endorsed its usage, the school principals supported the investigation, and the examinees consented to participate with the parent permission.

Statistics

A computerized database was formed using the Microsoft Excel 2003 program (Microsoft Corporation, Redmond, WA, USA). The results are presented as absolute and relative frequencies. Statistical analysis was performed with SPSS for Windows, version 9.0 (SPSS INC,

TABLE 1
DEMOGRAPHIC DATA OF STUDY SAMPLE. N (%), N=1055

	N (%)
Gender:	
Girls	516 (48.9)
Boys	539 (51.1)
Grade	
6th	377 (35.7)
7th	331 (31.4)
8th	347 (32,9)
Domicil pupil	
No	189 (17.9)
Yes	866 (82.1)
Father ex soldier:	
Yes	587 (55.6)
No	468 (44.4)
Family structure:	
Both perents	960 (91.8)
Only mother	76 (6.58)
Only father	17 (1.47)
No perents	2 (0.17)

TABLE 2
INVOLVEMENT IN BULLYING AMONG 6TH–8TH GRADE PRIMARY SCHOOL PUPILS ACCORDING TO GENDER

Involvement in bullying	Gender		Statistic	
	Boys N (%)	Girls N (%)	χ^2	p
No participation	57 (11.0)	82 (15.2)	4.00	0,045
Involved rarely	290 (56.2)	327 (60.7)	2.17	0.141
Bully often	49 (9.5)	19 (3.5)	15.59	<0.001
Victim often	55 (10.7)	77 (14.3)	3.17	0.075
Bully/victim often	65 (12.6)	34 (6.3)	12.26	<0.001
Total	516	539	–	–

Subgroup comparison by gender: χ^2=32.84, p<0.001

Chicago, IL, USA). The difference between the observed frequencies of nominal and ordinal variables was assessed with χ^2 test for unpaired samples or with Fischer exact test for low rates. The level of statistical significance was set at p<0.05.

Results

There were 516 boys (48.9%) and 539 girls (51.1%). The bulk of the pupils (82.1%) were local residents. About half of the examinees declared that their fathers were participating in the war. Majority of the pupils were living with both parents. Table 1 presents demographic data of our sample.

The results show that 68 (6.4%) children bullied other pupils almost every day; 132 (12.5%) of the examinees were bullied almost every day, and 99 (9.4%) were bully/victims almost every day in the past few months. Therefore 299 (28.3%) of the pupils were involved in school bullying almost every day. Moreover, there were 617 (56.5%) bullying or bullied sometimes, and only 139 (13.2%) did not participate in any kind of school bullying in the past few months.

Boys were more often bullies (χ^2=15.59; p<0.001) and bully/victims (χ^2=12.26; p<0.001), while girls were mostly neutral (χ^2=4.00; p=0.045), also more victims with no statistical significancy (χ^2 =3.17; p=0.075). Boys and girls who were involved in bullying rarely showed no significant difference (χ^2=2.17; p<0.141) (Table 2). In addition there were significant gender differences in most of the trauma symptoms among the examinees. More frequent symptoms in girls were ANX, DEP and DIS, while boys had more symptoms of ANG (p<0.001). There were no significant differences in symptoms of PTS or dissociation. The pupils from group of 6th class and those from 7th and 8th class showed no differences in presence of trauma symptoms, except in symptoms of DIS (p=0.009) and DIS-O (p=0.031) where older pupils showed more DIS symptoms.

The pupils involved in school bullying almost every day had significantly more trauma symptoms of ANX, DEP, ANG, PTS and DIS than the pupils who are not involved (p<0.001). The most evident differences were observed in symptoms of DEP, PTS and ANG. TABLE

Adolescents involved almost every day in school violence as bully/victims (Table 4) were at highest risk of PTS symptoms (OR 11.61, CI 5.24–25.75), followed by victims (OR 10.24, CI 4.87–21.55), and then by frequent bullies (OR 3.90, CI 1.65–9.23). Adolescents rarely involved in bullying of any kind had the lowest risk profile for PTS (OR 2.41, CI 1.21–4.76). The most important predictor of ANX symptoms is frequent bully/victim status in school bullying (OR 21,27, CI 7.72–58.57), followed by frequent victims (OR 16,31, CI 6.19–43.03), and then by frequent bullies, while adolescents rarely involved in bullying had the lowest, but present risk of ANX (OR 3.43, CI 1.35–8.68). Risk factors for DEP symptoms among young adolescents are involvement in bullying as common victim (OR 28.31, CI 10.70–74.91), common bully/victim (21.85, CI 7.93–60.19), common bully (OR 5.37, CI 1.78–16.13). Pupils who were involved rarely in bullying of any kind had the same risk as common bullies (OR 5.36, Cl 2.13–13.50). Family structure, father's participation in the past war and domicility had no appreciable influence in this regard.

Discussion and Conclusion

This study shows presence of school bullying and their connection with trauma symptoms among pupils. Comparison with the results from other countries is difficult because of instrument and sample differences. The most important results come from the huge cross-sectional national studies like Health Behaviour among school children (HBSC Study), where the prevalence of bullied children varied from 6 % in Sweden to 40% in Lithuania[7].

As already shown in other studies, boys prevailed in the role of bully and bully/victim[3,8,9]. The main reason for the aggressive behaviour in males is presumably psychological, related to the need to demonstrate the physical strength, but biological factors could not be dismissed[9–11]. The girls were more often victims, as in most other studies[12,13].

At variance to our results, other similar studies found more bullies among older and more victims among younger pupils[14,15]. Some other studies have found more symptoms of ANG among boys, suggesting family therapy as an effective intervention[15,16].

TABLE 3
TRAUMA SYMPTOMS AMONG THE EXAMINEES ACCORDING TO GENDER, GRADE AND INVOLVEMENT IN BULLYING

	Med	IQR	p		Med	IQR	p
Anxiety				*Posttraumatic stress*			
Gender				Gender			
M	3	4	<0.001	M	5	6	0.030
F	4	5		F	5	6	
Grade				Grade			
6	3	5	0.181	6	5	6	0.607
7 & 8	4	4		7 & 8	5	5.25	
Involvement in bullying				Involvement in bullying			
No participation	2	3		No participation	2	3	
Bully	3.5	4	<0.001	Bully	6.5	7	<0.001
Victim	6	6		Victims	8	7	
Bully/victim	7	6		Bully/victims	10	9	
Depression				*Dissociation*			
Gender				Gender			
M	3	4	<0.001	M	3	4	<0.001
F	4	4		F	4	4	
Grade				Grade			
6	3	3	0.209	6	4	4	0.009
7 & 8	3	3.25		7 & 8	4	5	
Involvement in bullying				Involvement in bullying			
No participation	1	3		No participation	2	2	
Bully	4	3	<0.001	Bully	4.5	5	<0.001
Victim	6	6		Victims	6	5	
Bully/victim	7	7		Bully/victims	8	7	
Anger				*Obvious dissociation*			
Gender				Gender			
M	4	5	<0.001	M	2	3	0.232
F	3	4		F	2	3	
Grade				Grade			
6	3	4	<0.001	6	2	3	0.031
7 & 8	4	5		7 & 8	2	3	
Involvement in bullying				Involvement in bullying			
No participation	1	2		No participation	1	2	
Bully	8	7	<0.001	Bully	2	3	<0.001
Victim	4.5	6		Victim	4	4	
Bully/victim	10	8		Bully/victim	6	5	
Dissociation fantasy							
Gender							
M	1	2	<0.001				
F	2	2					
Grade							
6	1	2	<0.007				
7 & 8	2	2					
Involvement in bullying							
No participation	1	2					
Bully	2	2	<0.001				
Victim	2	2					
Bully/victim	1	2					

TABLE 4
PREDICTORS OF POSTTRAUMATIC STRESS, DEPRESSION AND ANXIETY SYMPTOMS AMONG PUPILS (LOGISTIC REGRESSION ANALYSIS)

	Posttraumatic stress			Depression			Anxiety		
	OR	95% CI		OR	95% CI		OR	95% Cl	
Ivolvement in bullying									
No participation	1.00			1.00			1.00		
Involved rarely	2.41	1.21	4.76	5.36	2.13	13.50	3.43	1.35	8.68
Bully often	3.90	1.65	9.23	5.37	1.78	16.13	6.24	2.12	18.35
Victim often	10.24	4.87	21.55	28.31	10.70	74.91	16.31	6.19	43.03
Bully/victim often	11.61	5.24	25.75	21.85	7.93	60.19	21.27	7.72	58.57
Family structure									
Both parents	1.00			1.00			1.00		
Only mother	1.56	0.89	2.73	1.06	1.06	0.58	0.92	0.49	1.75
Only father	1.21	0.39	3.82	2.25	2.25	0.74	0.42	0.08	2.08
No parents	0.84	0.05	14.77	0.44	0.44	0.02	0.96	0.05	16.40
Father ex soldier									
Yes	1.00			1.00			1.00		
No	1.56	0.89	2.73	1.14	1.14	0.75	1.12	0.72	1.75
Immigrants									
Yes	1.00			1.00			1.00		
No	0.80	0.05	13.87	1.17	1.17	0.77	0.29	0.02	5.63

In a prospective cohort study Kim et al. found that some girls exhibiting aggressive behaviour against their peers have more externalising symptoms than boys, with a higher probability of developing external symptoms[17]. Older pupils in 7th and 8th grade showed more symptoms of anger than younger ones. The study in West Herzegovina, similarly, identified more bullies among older examinees,[3] while in most other countries children through growing and maturing develop socially acceptable behaviour[18,19]. It seems that anger and aggressive behaviour, especially among boys, are socially accepted way of behaving in BH.

Sesar et al conducted one of rare studies in B&H in area of child maltreatment which shows that exposure to maltreatment in childhood predicted difficulties in psychological adjustment in adolescence[20].

The most important result of this study is that pupils involved in school bullying have more trauma symptoms than those not involved. Some studies point to correlation between psychopathological symptoms and involvement in school violence[17,21,22]. Peskin et al., in a study among American students, found that victims of school bullying share anxiety, sadness, nervousness and fear[23]. In a study of Finnish boys, Sourander found that common experience of school violence is a strong predictor of anxiety in early adulthood.[24] Galdstone et al. found in a quarter of adults presented to an outpatient depression clinic have experience of severe and traumatic childhood bullying[25]. In Japanese study, authors conclude that negative interpersonal events were significant predictor of change in depressive symptoms among early adolescents[26].

A lot of children in B&H predominantly boys in age 10 to 16 were wounded during the war[27.] Barath's study among school children in Sarajevo, 4 years after the war, found a lot of unhealthy life conditions and psychosocial stressors. Therefore it is not surprising fact about association between school violence and trauma symptoms in a late afterwar period[28].

According to our results and former findings, we conclude that school interventions, such as regulation of pupils' behaviour, ameliorating prosocial skills and improving peer relationship should be implemented in every school. The children who show psychiatric symptoms should be referred to psychiatric consultation and intervention in due time[29].

This study analyzed just 6th–8th grade primary school pupils, and no older teenage/adolescent group. The measurements were based on self-reporting, which is an acceptable, but not the best way of reliable data acquisition. It will be appropriate to consider and study bullying phenomenon from parents' and school teachers' point of view as well.

Acknowledgements

Thanks to the pupils and teachers of Primary Schools of Mostar for their facility and collaboration during this study.

REFERENCES

1. OLWEUS D, ed. Bullying in school. What we now and what we can do. (Blackwell, Oxford, 1993). — 2. IVARSSON T, BROBERG AG, ARVIDSSON T, GILLBERG C, NORD J Psychiatry, 59 (2005) 365. — 3. ČERNI OBRDALJ E, RUMBOLDT M, Croat Med J, 49 (2008) 528. — 4. OLWEUS D, J Child Psychol Psychiatry, 35 (1994) 1171. — 5. BULJAN FLANDER G, DURMAN MARIJANOVIC Z, ĆORIC ŠPOLJAR R, Soc Res (In Croatian), 16 (2007) 157. — 6. BRIERE J, Trauma symptom checklist for children. Professional manual, (Psychological Assessment Resources, Odessa FL, 1996). — 7. DUE P, HOLSTEIN BE, LYNCH J, DIDERICHSEN F, GABHAIN SN, SCHEIDT P, et al, Eur J Public Health, 15 (2005) 128. — 8. WOLKE D, WOODS S, STANFORD K, SHULZ H, Br J Psychol, 92 (2001) 673. — 9. SEALS D, YOUNG J, Adolescence, 38 (2003) 735. — 10. OLWEUS D, Bullying among schoolchildren: intervention and prevention. In: PETERS RD, MCMAHON RJ, QUINSEY VL, (Eds) Agression and violence throughout the life, (Sage Publications, London, 1992). — 11. FANG CY, EGLESTON BL, BROWN KM, LAVIGNE JV, STEVENS VJ, BARTON BA, J Adolesc Health, 44 (2009) 590. — 12. Bentley KM, Li AKE, Can J School Psychol, 11 (1995) 153. — 13. BALDRY AC, Child Abuse Negl, 27 (2003) 713. — 14. KIM YS, LEVENTHAL BL, KOH YJ, HUBBARD A, Arch Gen Psychiatry, 63 (2006) 1035. — 15. NICKEL MK, KRAWCZYK J, NICKEL C, FORTHUBER P, KETTLER C, LEIBERICH P, Pediatrics, 116 (2005) 247. — 16. SPOTH RL, REDMOND C, SHIN C, Arch Pediatr Adolesc Med, 154 (2000) 1248. — 17. KIM YS, LEVENTHAL BL, KOH YJ, BOYCE WT, Arch Suicide Res, 13 (2009) 15. — 18. SMITH PK, MADSEN KC, MOODY JC, Edu Res, 41 (1999) 267. — 19. Mc MASTER L, CONNOLY J, PEPLER DJ, CRAIG WM, Dev Psychopathol, 14 (2002) 91. — 20. SESAR K, ZIVCIC-BECIREVIC I, SESAR D, Croat Med J, 49 (2008) 243. — 21. IVARSSON T, BROBERG AG, ARVIDSSON T, GILLBERG C, Nord J Psychiatry, 59 (2005) 365. — 22. LIEN L, GREEN K, WELANDER-VATN A, BJERTNESS E, Clin Pract Epidemol Ment Health, 23 (2009) 5. — 23. PESKIN MF, TORTOLERO SR, MARKHAM CM, J Adolesc Health, 40 (2007) 372. — 24. SOURANDER A, JENSEN P, RONNING JA, Pediatrics, 120 (2007) 397. — 25. GLADSTONE GL, PARKER GB, MALHI GS, J Nerv Ment Dis, 194 (2006) 201. — 26. KURODA Y, SAKURAI S, J Early Adol, 3 (2011) 300. — 27. TERZIC J, MESTROVIC J, DOGAS Z, FURLAN D, BIOCIC M, Croat Med J, 42 (2001) 156. — 28. BARATH A, Croat Med J, 43 (2002) 213. — 29. KUMPULAINEN K, Int J Adolesc Med Health, 20 (2008) 121.

E. Černi Obrdalj

University of Mostar, School of Medicine, Bijeli Brijeg bb, 88000 Mostar, Bosnia and Herzegovina
e-mail: ecerniobrdalj@gmail.com

TRAUMATSKI SIMPTOMI U UČENIKA UKLJUČENIH U NASILJE MEĐU DJECOM U ŠKOLI – PRESJEČNA STUDIJA PROVEDENA U MOSTARU, BOSNA I HERCEGOVINA

SAŽETAK

Cilj studije bio je utvrditi koliko je školsko nasilje povezano sa simptomima traumatiziranosti u djece; jesu li učenici s traumatskim simptomima češći sudionici školskog nasilja kao žrtve, nasilnici i žrtve/nasilnici. U istraživanju je sudjelovalo 1055 učenika VI–VIII razreda (12–14 godina starosti) osnovnih škola zapadnog dijela Mostara Učenici su anketirani s pomoću Upitnika školskog nasilja kreiranog 2003. godine i validiranog u Hrvatskoj i Upitnika traumatskih simptoma djece (TSCC). Učenici koji sudjeluju u školskom nasilju kao žrtve, nasilnici i žrtve/nasilnici imaju značajno više traumatskih simptoma od učenika koji ne sudjeluju u istom. Sudjelovanje u školskom nasilju pokazalo se kao žrtva/nasilnik pokazalo se kao jak indikator traumatskih simptoma, osobito anksioznosti, ljutnje, posttraumatskog stresa i disocijacije, dok žrtve školskog nasilja imaju najveći omjer vjerojatnosti za razvoj simptoma depresije. U zaključju, postoji jaka povezanost između školskog nasilja i traumatskih simptoma. Na osnovu naših rezultata, naglasak treba staviti na redoviti probir na školsko nasilje u radu obiteljskog liječnika i uključivanje redovitih mjera prevencije i rane intervencije u svakoj osnovnoj školi.