

Bullying Among School Children in Postwar Bosnia and Herzegovina: Cross-Sectional Study

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Aim To compare the prevalence and characteristics of bullying between two towns in Bosnia and Herzegovina – Stolac, which was exposed to firearm conflict during the 1992-1995 war in Bosnia and Herzegovina, and Posušje, which was outside of the active combat zone.

Methods In this cross-sectional study, we included 484 primary school pupils attending 4th-8th grade of elementary school, 217 (44.8%) of them from Stolac and 267 (55.2%) from Posušje. The pupils were interviewed using a standardized questionnaire on the experience of bullying.

Results Every sixth pupil (16.4%) experienced at least one form of bullying almost every day, while 34 (7.0%) pupils constantly bullied other children. Sixth-eighth graders were more often bullies than 4th-5th graders ($P=0.044$). Girls were most often victims of bullying, while boys were most often bullies ($P=0.036$). The expected difference in bullying between the two towns was not observed, except for older pupils in Posušje, who were more violent than their peers in Stolac ($P=0.044$). Among the analyzed variables of sex, age, town, and school achievement, only male sex was significant predictor of bullying ($P=0.010$), increasing the relative risk by 3.005 times.

Conclusion Bullying among primary school pupils did not differ between areas that experienced war activities in 1992-1995. Our results could be useful in the introduction of specific prevention measures against bullying in postwar situation.

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Bullying is defined as repeated, negative acts committed by one or more children against another child. It may be physical or verbal (hitting or kicking, teasing or taunting), or may involve indirect actions such as manipulation in friendships or intentional exclusion of other children from activities (1). One of its main characteristics is an imbalance in real or perceived power between the bully and the victim (1).

Several studies explored the nature, prevalence, and effects of bullying among school children (2-6). Bullying is a highly prevalent phenomenon with a harmful and long-lasting effect on victims and a negative impact on school climate (7-14). Children involved in such violence, either as victims or perpetrators, show poor psychosocial and emotional adjustment and have more health problems (5-9).

The prevalence of bullying is not widely studied. The percentage of school violence victims in the early 1990s was similar across countries, amounting to 17% in Australia, 19% in England, 15% in Japan, and 14% in Norway (1). More recent cross-sectional investigations show greater variability in its prevalence, ranging from 9%-54% (2-4). In Bosnia and Herzegovina (BH) there have been no systematic studies on school bullying. The World Health Organization-sponsored Health Behavior in School-aged Children Study, which examined 36 European and North American countries, including BH, did not provide data on bullying (15).

Large number of children grow up in conditions of war, terrorism, ethnic and political violence, with a huge impact on the development of their psychological and social profile (16). Freud and Burlingham (17) were the first authors to hypothesize that children exposed to war atrocities would develop an increased level of aggression. A study conducted in Croatia showed that primary school children from

a town exposed to war perceived themselves as more aggressive in their early adolescence than their peers from a town that was not exposed to war (18).

These facts were the starting points for our study in which we investigated the prevalence of bullying in two towns of comparable size of Western Herzegovina. Stolac is a town with multinational ethnic structure consisting of Bosniaks and Croats, which was exposed to direct shelling and firing during the 1992-1995 war in BH and massive population displacement. Posušje, on the other hand, is populated mostly by Croats and was spared of direct military conflict, but experienced war indirectly through recruiting of men and economic, social, political, and other consequences.

After the war, many multinational communities witnessed ethnic segregation, which is particularly visible in schools ("two schools under one roof"). In many such schools, Bosniak and Croatian children, as well as their teachers, have no mutual contact (19). Pupils often enter these schools through different entrances, take separate breaks, and the teachers have segregate common-rooms. Our hypothesis was that school bullying was more frequent in Stolac than in Posušje, due to greater level of aggression in children caused by recent war events.

Participants and methods

This cross-sectional study was conducted among primary school pupils in Posušje and Stolac. The participants were aged 11-15 years, attending 4th-8th grades in the 2005/6 school year. Both schools had 4 classes per generation and we randomly selected 2 classes (50%) from each grade. In Posušje, all pupils attended the school with Croatian curriculum, while in Stolac one half of the classes in each grade attended the school with Bosniak

and the other half the school with Croatian curriculum.

All the selected pupils/classes received questionnaires. Out of 517 completed questionnaires, 484 (93.6%) were evaluated and 33 invalid forms were excluded from the analysis.

The study included 248 boys (51%) and 236 girls. Table 1 presents the distribution of the examinees according to the town, grade, family structure, and the number of siblings. There were no differences between Posušje and Stolac in family status (Fisher test=1.757; df=3; $P=0.681$) and school grade ($\chi^2_1=0.348$; $P=0.555$). However, the pupils from Posušje had significantly more brothers and sisters than their peers in Stolac ($\chi^2_1=30.157$; $P<0.001$).

Table 1. Structure of school children from Stolac and Posušje school year 2005/6.

Parameter	No (%) of pupils from		P
	Posušje (n=267)	Stolac (n=217)	
Family status:			
both parents	253 (94.8)	201 (92.6)	0.681
mother alone	10 (3.8)	13 (6)	
father alone	2 (0.8)	2 (0.9)	
no parents	2 (0.8)	1 (0.5)	
Brothers and sisters:			
<3	85 (32)	123 (57)	<0.001
≥3	182 (68)	94 (43)	
Grade:			
4th-5th	111 (42)	96 (44)	0.555
6th-8th	156 (58)	121 (56)	

The survey was performed in September 2005, executed by the investigators with the help of local teachers, senior students of Mostar University School of Medicine, and assistants at Mostar University School of Natural Sciences and Education. The aim of the study was clearly explained to the pupils, and the instructions for answering the questionnaire were given. The individual filling time averaged 30 minutes.

The questionnaire on school violence was developed in 2003 and validated for a prior study in Croatia (20), based upon the revised bully/victim form authored in 1994 by Olweus (21) (web-extra material). In addition to some general demographic data, the question-

naire asked about the frequency of experiencing different types of bullying, age and sex of the bullies, persons to whom negative experiences might be confided, and the rate of different types of bullying. The question about committed and experienced bullying consisted of 11 parts (modes of aggressive behavior) with the answers given on a 3-point Likert scale as follows: 1 – never, 2 – sometimes or rarely, 3 – almost every day. The modes of aggressive behavior 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. For statistical analysis, bullying forms were grouped into verbal, physical, emotional, economic, and sexual harassing. A person was considered a victim of violence if he or she was exposed to at least one type of bullying almost every day, while he or she was considered a perpetrator if he or she repeated at least one type of violence almost every day. Bully/victim was considered a person suffering and/or exerting at least one kind of violence almost every day. Internal consistency of the questionnaire was high (20). 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.

Statistical analysis

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, 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 Fisher exact test for low rates. Predictive variables for committed or endured bullying were analyzed with binary logistic regression. The level of statistical significance was set at $P < 0.05$.

Table 2. Number (%) of children in Stolac and Posušje who committed or experienced bullying according to sex and school grade

	No. (%) of children			P
	almost every day	sometimes/rarely	never	
Experiencing				
Total	80 (16.5)	304 (62.8)	100 (20.7)	<0.001
Grade:				
4th-5th	37 (17.9)	136 (65.7)	34 (16.4)	0.134
6th-8th	43 (15.5)	168 (60.6)	66 (23.9)	
Sex:				
girls	49 (19.8)	157 (63.3)	42 (16.9)	0.036
boys	31 (13.1)	147 (62.3)	58 (24.6)	
Committing				
Total	31 (6.4)	213 (44.0)	240 (49.6)	<0.001
Grade:				
4th-5th	9 (4.3)	83 (40.1)	115 (55.6)	0.044
6th-8th	22 (7.9)	130 (46.9)	125 (45.2)	
Sex:				
girls	8 (3.4)	95 (40.3)	133 (56.3)	0.002
boys	23 (9.3)	118 (47.6)	107 (43.1)	

Results

Out of the total sample (n = 484), most pupils were bullied sometimes (62.8%), some never (20.7%), and some (16.5%) reported experienced bullying almost every day ($\chi^2 = 190.48$, $P < 0.001$). Around half of the pupils never (49.6%) or rarely (44.0%) assaulted their peers, while only 6.4% of them did it almost every-day ($\chi^2 = 160.19$, $P < 0.001$; Table 2).

No significant difference was observed in the prevalence of bullying between 4th-5th and 6th-8th graders ($\chi^2 = 4.019$, $P = 0.134$), but girls were more often victims than boys ($\chi^2 = 6.646$, $P = 0.036$). Bullies were more frequent in 6th-8th grades ($\chi^2 = 6.246$, $P = 0.044$) and boys were more often bullies than girls ($\chi^2 = 12.27$, $P = 0.002$; Table 2). The number of victims did not differ significantly between 4th-5th and 6th-8th graders ($\chi^2 = 4.019$, $P = 0.134$), but it was higher among girls ($\chi^2 = 6.646$, $P = 0.036$).

Table 3. Frequency of experienced and committed bullying among school children in Stolac and Posušje according to school location and grade

	No. (%) of children from				P
	Stolac		Posušje		
	4th-5th grade	6th-8th grade	4th-5th grade	6th-8th grade	
Experiencing:					
never	18 (36.7)	31 (63.3)	16 (31.4)	35 (68.6)	0.571
sometimes/rarely	61 (46.9)	69 (53.1)	75 (43.1)	99 (56.9)	0.508
almost every day	17 (44.7)	21 (55.3)	20 (47.6)	22 (52.4)	0.796
Committing:					
never	52 (49.1)	54 (50.9)	63 (47.0)	71 (53.0)	0.753
sometimes/rarely	37 (38.1)	60 (61.9)	46 (39.7)	70 (60.3)	0.822
almost every day	7 (50.0)	7 (50.0)	2 (11.8)	15 (88.2)	0.044

Table 4. Predictors of experienced and committed bullying among school children in Stolac and Posušje according to sex, age, town, and school achievement (marks)*

		Statistics			
		Wald	P†	OR (95% CI)	P‡
Experienced:					
sex	Boys vs girls	3.028	0.082	1.55 (0.95-2.55)	0.123
grade	4th-5th vs 6th-8th	0.689	0.406	0.81 (0.50-1.33)	
locality	Posušje vs Stolac	0.159	0.690	1.10 (0.68-1.79)	
grades	<very good vs ≥ very good	1.235	0.266	0.75 (0.45-1.26)	
Committed:					
sex	Boys vs girls	6.614	0.010	3.01 (1.30-6.95)	<0.001
age	4th-5th vs 6th-8th	2.686	0.101	1.98 (0.88-4.48)	
locality	Posušje vs Stolac	<0.001	0.986	0.99 (0.47-2.08)	
grades	<very good vs ≥ very good	0.050	0.824	1.09 (0.50-2.42)	

*Abbreviations: Wald – Wald statistics; OR – odds ratio; CI – confidence intervals.

†The difference between two groups for each factor of experienced and committed bullying.

‡The difference for all factors within experienced or committed bullying.

Table 5. Classification of school children in Stolac and Posušje into bullies, victims, bullies/victims, and neutral pupils according to school location and grade

Bullying modalities	No. (%) of children from				P
	Stolac		Posušje		
	4th-5th grade	6th-8th grade	4th-5th grade	6th-8th grade	
Bully	4 (57.1)	3 (42.9)	1 (8.3)	11 (91.7)	0.038
Victim	14 (45.8)	17 (54.2)	19 (51.4)	18 (48.6)	0.611
Bully/victim	3 (42.9)	4 (57.1)	1 (20.0)	4 (80.0)	0.576
Neutral student	75 (43.6)	97 (56.4)	90 (42.3)	123 (57.7)	0.790

Table 6. Percentage of school children in Stolac and Posušje who confided about bullying to siblings according to sex and grade

	No. (%) of children from				P
	Stolac		Posušje		
	4th-5th grade	6th-8th grade	4th-5th grade	6th-8th grade	
Girls	16 (66.7)	8 (33.3)	8 (33.3)	16 (66.7)	0.041
Boys	14 (73.7)	5 (26.3)	11 (45.8)	13 (54.2)	0.066
Total	30 (69.8)	13 (30.2)	19 (39.6)	29 (60.4)	0.004

Pupils from Posušje and Stolac reported similar rates of experienced violence (Table 3), but among 6th-8th graders from Posušje there were more bullies than among their peers from Stolac (Fisher test = 3.750, $df = 1$, $P = 0.044$).

Sex, age, town, and school achievement were assessed as predictors for being a bully or a victim using binary regression analysis. Only sex was found to be a significant predictor for being a bully. A male student had 3.01 higher probability of being a bully than a female one ($P = 0.010$; Table 4). There were 11 violent children of 156 6th-8th graders in Posušje, compared with 3 of 121 6th-8th graders in Stolac. Among 4th-5th graders, there was one violent pupil of 111 children in Posušje and 4 of 96 children in Stolac ($P = 0.038$; Table 5). Fourth-fifth graders were predominantly bullied by older pupils, while the latter were mostly victims of their coevals (Fisher test = 9.888, $df = 4$, $P = 0.022$).

The most prevalent form of violence was verbal violence (59%), followed by physical (25.4%), emotional (6.9%), and economical (6.5%) violence, while sexual violence was the least prevalent (2.2%).

There were significant age differences in the percentage of pupils who confided to their teachers about the violence; younger

pupils confided to their instructors more often (68%) than older ones (32%; $\chi^2_1 = 5.973$, $P = 0.015$). Girls significantly more often confided to their friends than boys ($\chi^2_1 = 9.622$, $P = 0.002$). There were no marked between-town differences in the percentage of pupils who confided to their teachers about violence ($\chi^2_1 = 1.343$, $P = 0.201$). A similar proportion of pupils in both towns confided about violence to their parents ($\chi^2_1 = 12.63$, $P = 0.202$), teachers ($\chi^2_1 = 0.572$, $P = 0.284$), and friends ($\chi^2_1 = 1.910$, $P = 0.122$). Sixth to eighth graders in Posušje (60.4%) and 4th-5th graders (69.8%) in Stolac mostly confided to their siblings. Older girls in Posušje and younger girls in Stolac more often confided to their siblings than their colleagues from the other town ($\chi^2_1 = 4.083$, $P = 0.041$; Table 6).

Discussion

Our study demonstrated that 16.4% of the examined school children, or almost every sixth student, constantly experienced some form of violence and that 7% of them bullied their colleagues almost every day.

The rates of bullying obtained in our study were lower than in Croatia, neighboring country with similar war experience, where a

study reported 27% of bullies and 16% of victims (22). Since the research instruments and methodology in these studies were the same, the observed differences may reflect the local public attitudes toward school violence. Although the situation seems to be better than in Croatia, we believe that the prevalence of bullying and the harm that it causes are seriously underestimated by many children and adults in BH. Better awareness concerning this form of violence would probably result in higher recognition and reporting of violence.

No significant difference in bullying rates was observed between the two towns, but higher-grade pupils from Posušje were more often bullies than their counterparts from Stolac. Notwithstanding numerous media reports about clashes between Bosnian and Croatian pupils attending “two schools under a single roof,” and menacing nationalistic graffiti on the school walls (19), this survey showed that such outbursts were rather exceptional and that school bullying was not related to political or national factors.

One explanation for our results may be saturation of the Stolac children with violence. Higher bullying rates committed by 6th-8th graders from Posušje may be due to their increased wantonness and belligerence resulting from improved living conditions, but also to possible intentional underreporting of victimization in Stolac because the focus of mass-media was directed to this “problem town.”

As already reported in other studies (3,23,24), the majority of bullies were boys. There were no sex differences between the two towns and the proportion of girls and boys experiencing or committing violence was comparable in all grades. Cultural differences concerning the parents’ educational views about sex are obviously minimal between these two towns. The main reason for aggressive boys’ behavior is presumably psychological, related to the need to demonstrate their physical

strength, but biological factors should not be dismissed (1,25).

Violence perpetrators were mostly sharing the same class with their victims, which is consonant with other reports (6,25). Younger pupils were mostly victims of the older ones, which were predominantly harassed by their peers. Sex was the only significant predictor of bullying in this survey, indicating that boys are more often bullies. Besides male sex, Scheithauer et al (26) found that age was another relevant predictor of school bullying and that older pupils were more aggressive.

An important element connected with bullying is reporting of violence to other persons. Pupils mostly confided to parents (38%), friends (33%), or siblings (19%), while teachers (10%) were the least approached. These results point to a positive emotional role of the family but a defective educational role of the school. Lower graders confided more in their teachers than higher-graders, indicating that younger pupils perceive their teachers in a more parental way, which highlights the need to strengthen the instructor-pupil relationship in higher grades. Girls were significantly more inclined to share their problems with friends than boys. Older pupils from Posušje were more prone to share the violence problems with their siblings, whereas younger girls from Stolac more often confided in their siblings than those from Posušje. This difference in reported behavior between age groups in Posušje and Stolac, is intriguing. Since senior pupils were mostly assaulted by their peers, and higher graders from Posušje were significantly more aggressive than their counterparts from Stolac, it is plausible to assume that older children from Posušje, particularly girls, find better understanding inside families than in violence-charged classes. Particularly important in this respect is family consolidation, because family is the place where children acquire trust and self-confidence; disturbed fam-

ily relations have significant impact on the nature, prevalence, and effects of bullying among school children (27,28).

An important limitation of this study is focusing on only two towns. The results are, therefore, hardly generalizable to the whole country or region. Another limitation is that some ten years have passed since the end of the war in BH. The examinees either did not experience war brutalities or experienced them in the earliest years of life. Secondary traumatism in some families (eg, war veterans) is inevitable (29) but presumably not strong enough to have an effect on pupils, especially if assumed that the educational role of the family has been transferred to adolescents' coevals, schools, and the media (30-32). It would be particularly interesting to investigate secondary traumatization (individual untoward experiences) with some trauma checklist, eg, Trauma Symptom Checklist for Children, which could reveal differences in the level of traumatization between the two towns (33). The role of social status may be an important determinant of violent behavior and perception of suffering, which is among the goals of future school bullying assessment in BH (34).

Several steps have already been undertaken on the way of solving the bullying problem in developed countries – detection of its incidence, public sensibilization, understanding of interdisciplinary approach, broader engagement of the entitled institutions, political support and fundraising, development of preventive and interventional programs, and effectiveness evaluation of these activities (4).

From the public health viewpoint, the position of school bullying is largely defined by its prevalence. Investigations of this kind should be particularly stimulated in communities which have not paid adequate attention to the problem (35). School-based secondary prevention programs to reduce aggressive behavior appear to produce improvements in behavior

greater than would have been expected by chance (36). Since the preventive measures are of proven utility, their implementation, continuous enforcement, and yearly renewal are highly recommended (37).

Many health authorities have developed guidelines for primary care/family physicians concerning control of school bullying, including preventive education, risk screening, intervention, and follow-up. Bullying is clearly labeled as a socially unacceptable behavior. Nevertheless, there are few family doctors, school physicians, or pediatricians implementing these suggestions on a routine basis (38). Fighting violence among school children at the primary care level, including psychosocial evaluation and targeted education of parents and teachers, may markedly decrease bullying and its negative consequences on mental and physical health of children and adolescents (39).

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