doi:10.5559/di.22.4.07

BULLYING AMONG CHILDREN IN SPLIT, CROATIA: ASSOCIATION WITH GENERAL, PSYCHOSOCIAL, BEHAVIORAL AND SCHOOL VARIABLES

Sanja ĆAKIĆ
Technical and Traffic High School, Split

Branka BEGOVAC, Silvana PLEŠTINA, Trpimir JAKOVINA
School of Medicine, Clinical Hospital Center, Zagreb

Maja CRNKOVIĆ
University Hospital Center "Sestre milosrdnice", Zagreb

Ivan BEGOVAC
School of Medicine, Clinical Hospital Center, Zagreb

UDK: 364.636(497.583Split)
373.3.06(497.583Split)
373.3.091.212-056.88(497.583Split)
Kategorizacija: Izvorni znanstveni rad

Primljeno: 16. 9. 2012.

Acknowledgments: The study was conducted as part of the first author's MS thesis, at the School of Medicine, University of Zagreb, Croatia. The authors thank Josip Begovac, MD PhD, for his efforts invested in statistical data processing.

The first aim was to determine the prevalence of bullying behavior in the city of Split, Croatia. The second aim was to associate the specific bully status with demographic, family, psychosocial, behavioral, and school variables. This cross-sectional study with self-administered questionnaires included 567 children and 166 teachers. Study results revealed 16.3% of all children to have been involved in bullying behavior. Regression analysis revealed the bullies as compared to the non-involved group to be significantly associated with aggressive behavior, children's approving attitude towards aggressiveness, and male gender. Our overall prevalence rate and associations of variables were in accordance with the other international studies. Interventions for male pupils who have manifest bully behavior and have aggressive attitudes, as well as for their families, need to be a priority.

Keywords: bullying, school, children

✉ Ivan Begovac, Department of Psychological Medicine, School of Medicine, University of Zagreb, Clinical Hospital Center, Kišpatićeva 12, 10 000 Zagreb, Croatia.
E-mail: ivan.begovac@mef.hr

INTRODUCTION

Bullying can be defined as a repetitive negative activity or aggression intended to harm or bother somebody perceived by peers as physically or mentally inferior to the aggressor (Olweus, 1993). A smaller number of studies in institutions (Sekol & Farrington, 2009) and in schools (Glew, Fan, Katon, Rivara, & Kernic, 2005) still use the term bullying, however, the meaning of the term has been extended, i.e. the criteria of the imbalance of power and the intent to cause harm have been lost, although the concept of bullying continues to be used.

According to literature data, bullying problems are present in 7% to 35% of schools (Smith et al., 1999). Bašić, Ferić, and Kranželić (2001) have established a dimensional stability of aggressive behavior and a tendency of reducing the appearance of physical aggression with age. Similarly, Vrselja, Sučić, and Franc (2009) emphasize that the preference for risk and antisocial behavior is relatively high among eighth-grade, and relatively low among fifth-grade students. Literature data show the prevalence of bullying in Croatia to vary greatly, probably because of different methodology for measuring bullying. Elez (2003) reports on the overall bullying rate of 37%, Buljan Flander and Čosić (2004) report that 27% of school children experienced at least one form of violence at school every day, Craig et al. (2009) report on 12.8%, and Due et al. (2009) on 10% of bullying victims alone. A UNICEF survey emphasizes the importance of appropriate interventions in reducing the bullying in Croatian schools (Tomić-Latinac & Nikčević-Milković, 2009). Namely, by applying international cut-off scores on this UNICEF research, the prevalence of victimization is in the range from 23.88% to 32.7%, while the prevalence of bullying is in the range from 21.55% to 31.9%. Žižak and Jeđud (2005) emphasize the importance of social skills training as the most important preventive measure in suppressing bullying behavior.

Children are generally classified into the following subgroups: bullies, victims, bully-victims and non-involved. The three bully groups mentioned in previous studies (bullies, victims, bully-victims) appear to have different social behavior patterns and/or various behavioral and emotional problems (Boulton & Smith, 1994). The postulated causes of, or associations with bullying are quite complex, therefore there is a need for clarifying risk and protective biopsychosocial factors (Ttofi & Farrington, 2012). Concisely, they are related to individual factors, such as male gender (Olweus, 1994); family factors (Kramar, 2004), such as maltreatment (Dake, Price, & Telljohann, 2003); school setting (Glew et al., 2005); peer relationships (Milanović, 2004); and community factors, including the

impact of mass media (Zimmerman, Glew, Christakis, & Katon, 2005).

Relatively little is known about the contextual/environmental risk factors for bullying problems, including school environment. In the scant literature related to bullying in schools, the following factors are mentioned: class size, competition at school, and academic achievement (Glew et al., 2005); as well as school related stress (school adjustment) and alienation (school bonding) (Dake et al., 2003; Natvig, Albrektsen, & Qvarnstrom, 2001).

Our study followed the need of differentiating various factors involved in the problem of bullying in children. The first aim of this study was to determine the prevalence of bullying in a group of bullies in the city of Split, Croatia. The second aim was to associate specific types of bullying status with demographic and family variables, school variables, psychosocial variables and high risk behaviors, social behavior, strengths and difficulties, and school environment. To the best of our knowledge, there are only a few studies that have addressed this issue. We expect a higher prevalence of bullying behavior, compared to the previous survey in Croatia (Elez, 2003). Additionally, we expect that children who are bullies, will have certain characteristics, which are as follows: male gender; peer rejection; certain social characteristics, such as antisocial behavior, and poor academic performance. Further, we expect that much of the bullying behavior would be associated with an unfavorable school atmosphere, as measured by the teachers.

METHODS

Sample

This cross-sectional study included 610 children (male and female, 305 each) who were recruited from 21 elementary schools and from 61 class, in Split, Croatia. All children included in the study were elementary school fourth-graders, aged 9.4–11.9 (Mean = 10.5; SD = 0.3) years. However, the study included a total of 567 children, since the instrument "Aggressiveness, Victimization, Psychosocial Questions and High-Risk Behavior Scale" (Glew et al., 2005) was obtained, except for groups of bullies, very few children from other groups with bullying behavior (victims and bully-victims), as well as due to different cut-off scores for bullying and victimization, and this will be later described in detail below. The study also included 166 teachers; of them, 61 were class teachers, and 105 were 'other teachers' (i.e., they taught English, another foreign language, religion, art and music).

Measures

Aggressiveness, victimization, psychosocial questions and high--risk behavior scale (Glew et al. 2005).

A translation of the questionnaire developed by Glew et al. (2005) was used in this study. The questionnaire was filled out by the pupils, and the first two questions were decisive for the determination of aggressive or bullying status. Therefore, only the first two questions determined bullying status. The first statement was as follows: 'Students at this school make fun of, bother, or hurt me'. Response options were: 'never', 'sometimes', or 'always'. The second question was: 'How often have you yourself made fun of, bothered, or hurt another student at school'? Response options were: 'I haven't'; 'only once or twice'; '2–3 times a month'; or 'several times a week'. Based on their answers to the questions pupils were classified as only bullies (N = 100), only victims (N = 29), bully-victims (N = 14), and non-involved (N = 467) (children that were not aggressive toward others and were not victimized). Cut-offs for bullying status were consistent with the study by Glew et al. (2005) and with other studies (Nansel et al., 2001; Olweus, 1993). The children stating they bullied others '2–3 times a month' or more were classified as bullies. The children stating that they were hurt, bothered, or made fun of 'always', as opposed to 'sometimes' and 'never', were considered victims. Children that fit the criteria for both bullies and victims were removed from the 'bullies only' and 'victims only' categories and treated as a separate 'bully-victims' group. The non-involved group gave answers other than those given by the above three groups. However, as previously stated in the text, group 'victims' were excluded from the study, (N = 29) as well as the group 'bully-victims' (N = 14).

The survey also included other psychosocial and high-risk questions. Some responses with three-option answers were dichotomised for statistical processing of data.

Teacher Checklist for Social Behavior

Children's social behaviors and global peer acceptance/rejection were assessed using the Croatian version of the Teacher Checklist for Social Behavior (TCSB) developed by Coie J., Terry R., Underwood M., and Dodge K. in 1999 (unpublished manuscript), which was submitted to the translation and back-translation procedure. This questionnaire was filled out by 61 class teachers for each individual child. Therefore, this questionnaire was completed by teacher for 10 children per class. The TCSB is a 45-item measure assessing children's classroom behavior on six broad dimensions of social functioning. Portions of TCSB have shown adequate internal reliability and validity in previous studies (Coie & Dodge, 1988; Loch-

man, Coie, Underwood, & Terry, 1993). In the current study, the following five of six subscales with respective Cronbach's alpha were employed: 'Aggressive-dominant' behavior (14 items; $\alpha = 0.94$); 'Disruptive' (8 items; $\alpha = 0.88$); 'Socially insecure' (8 items; $\alpha = 0.85$); 'Academic ability' (4 items; $\alpha = 0.86$); and 'Prosocial' (5 items; $\alpha = 0.68$). The 'Attractiveness' scale was not used in this study due to an inadequate α value of 0.52. Teachers also provided single item ratings for social rejection and social popularity. As these items showed a strong negative correlation ($r = -0.72$), the popularity item was reverse-scored, and the two scores were averaged to create a total 'Peer rejection' score, similar to the procedure reported by Sandstrom & Schanberg (2004). Detailed data of factor analysis and some examples for items can be obtained on request.

The Strengths and Difficulties Questionnaire (SDQ)
SDQ is a brief behavioral screening questionnaire that asks about 25 attributes, some positive and others negative (Goodman, 1997). The Croatian version of the SDQ was used in the study (http://www.sdqinfo.com). This questionnaire was filled out by 61 class teachers for each individual child. Therefore, this questionnaire was completed by teacher for 10 children per class. The 25 items are divided into 5 scales of 5 items. The questionnaire is both reliable and valid based on psychometric data from previous studies (Goodman, 2001). Only two scales were employed in the present study due to their Cronbach's alpha: 'emotional symptoms' ($\alpha = 0.74$) and 'prosocial behavior' ($\alpha = 0.81$). Other scales yielded inadequate α values (< 0.60) and were, therefore, not used in this study. Detailed data of factor analysis and some examples for items can be obtained on request.

School Level Environment Questionnaire
The Croatian version of the School Level Environment Questionnaire (SLEQ) (Fisher & Fraser, 1991), which was subjected to the translation and back-translation procedure, was used. The SLEQ measures teacher's perception of the psychosocial dimensions of the school environment. It consists of 56 items grouped into eight scales. The actual form of SLEQ with a five-point response format (ranging from 'strongly agree' to 'strongly disagree') was employed in the present study. In previous studies, α coefficient for various SLEQ scales ranged from 0.64 to 0.92 (Fisher, Fraser, & Wubbels, 1993).

This questionnaire was filled out by a total of 166 class teachers and other teachers. A child could have one class teacher and several other teachers, depending on the child's/parents' choice of elective pupils. The mean SLEQ value was calculated for each child taking this into account, and the overall va-

lue was divided by the respective number of teachers. We are aware that such a calculation has not been performed previously in the literature. However, this use is in accordance with the general idea for the use of the instrument; namely, that it is possible to calculate the mean of an aggregate SLEQ score (Anstine Templeton & Johnson, 1998). The mean number of teachers filling out an SLEQ for a particular child was 4.1 (SD = 0.62), with a range 2–5. The intention was to get information on school environment not only from class teachers but also from several other teachers. In the present study, the following scales, with their respective Cronbach's alpha, were employed: 'student support' ($\alpha = 0.63$); 'affiliation' ($\alpha = 0.69$); 'professional interest' ($\alpha = 0.71$); 'staff freedom' ($\alpha = 0.64$); 'participatory decision making' ($\alpha = 0.73$); and 'innovation' ($\alpha = 0.67$). The remaining two scales in this study were not used due to inadequate α values (< 0.60). Detailed data of factor analysis and some examples for items can be obtained on request.

General and demographic data

A structured questionnaire on general and demographic data was filled out by class teachers. The questions referred to age, gender, paternal education level, father's income, and parental relationships. The questionnaire also included questions on school-related factors, such as average school performance (this variable was dichotomised into 'two best ratings' and 'other ratings'); school nonattendance; individualized or adjusted approach at regular school; and receiving free lunch at school.

Procedure

First, the objective of this study was explained to the teachers, pupils, parents and school authorities. The concepts of volunteer participation, confidentiality, anonymity and protection of confidential data were explained to study participants (i.e., teachers and pupils) as well as to pupils' parents and school administrators. Confidentiality is provided in a way that the obtained data were not presented to anyone, and furthermore, each child received a special code during data processing. Informed consent was obtained in writing from the children's parents prior to their inclusion in the study. The study was approved by the Zagreb University School of Medicine Ethics Committee.

The intent was to include all schools in Split and a minimum of 600 children in 60 grades. We managed to include 21 schools, representing about 80% of the schools in Split, which we considered to be an excellent percentage. Thus, a total of 61 classes were enrolled in 21 schools. First, all the parents in

one classroom were asked for consent. The parent response rate was 85.72%. Then, from the parents who agreed, ten pupils were randomly selected. All the selected pupils filled out questionnaires, a total number of 610. Finally, the teachers completed questionnaires. Of the class teachers who gave their consent to take part in the study, six did not fill out the questionnaire for a total of 60 children, and they were excluded from the study. Finally, as previously noted in the study, because of the instrument that measured aggression and victimization (Glew et al., 2005), out of a total of 610 children, 567 children remained in the sample.

Data were collected between February 2008 and June 2008. In Croatia, a class can have up to 30 pupils. Each teacher in each class rated ten pupils only. In this sense, only ten pupils (five male and female each) were randomly selected from each fourth grade class; this process was done to increase the number of teachers who could participate in the study, to cover the highest possible proportion of schools, and to obtain data on not more than ten pupils from any one teacher.

Only fourth-graders were recruited, primarily for the reasons elaborated below: first, the class teacher has an opportunity to get to know the children during a 4-year period. Second, fourth-graders have greater cognitive abilities than those in lower grades. Third, this grade was thought to be most appropriate for investigating peer relationships among children, as the children had spent several years together in the same class.

Class and other teachers individually completed the questionnaire. Class teachers were instructed by the investigators on how to instruct children to fill out the questionnaire correctly. Each child filled out their own questionnaire as part of a group session in the presence of their class teacher.

Statistical analysis

Children were classified into two groups (bullies and non-involved group). Data were expressed as frequencies for categorical variables and as means and standard deviations for continuous variables. The dependent variable had two groups (bullies and non-involved). Independent variables included different domains and were all dichotomized. The Wilcoxon-Mann-Whitney test was used for the comparison of continuous variables between groups, and the Fisher exact test or the χ^2-test or odds ratios were used for the comparison of categorical variables. We used the Pearson correlation coefficient to assess the relationship between continuous variables and to compute the effect size. Cronbach's alpha was used to examine internal consistency of the psychometric test scores. Factor analysis of each instrument was also done.

Multivariate logistic regression analysis was employed to compare bullies and the non-involved group. The potential confounding variables were screened for using bivariate analysis, including those with $p < 0.05$ in initial models. The TCSB 'Disruptive' scale was not included in the model due to concerns about its colinearity with the 'Aggressive-Dominant' scale (Pearson's coefficient = 0.73). The TCSB 'Prosocial' scale was not included in the model because its Cronbach's alpha was less than 0.70. The TCSB 'Aggressive-Dominant' scale was categorized at median in multivariable analysis. The adequacies of the final models were assessed by the Hosmer-Lemeshow test and were checked for linearity, multicolinearity and outliers. All analyses were done using SAS version 9.1.3 software (SAS institute INC, Cary, North Carolina, USA, licence site 70114095); the level of significance was set at 0.05.

RESULTS

The prevalence of bullying behaviors and comparison of two groups

The study results showed that 16.3% of the 567 children were involved in bully behaviors.

General demographic and family data and school data and their comparisons with OR are presented in Table 1. The group of bullies, in comparison to the non-involved group, had a larger proportion of male children ($\chi^2 = 27.76$; df = 1; $p < 0.001$) and receiving free lunch at school ($\chi^2 = 4.97$; df = 1; $p < 0.05$).

Answers to the questions on aggressiveness, psychosocial relationships and high-risk behavior (Table 2) revealed that the group of bullies, in comparison to the non-involved group, had a higher proportion of affirmative answers for the variable of 'beating' ($\chi^2 = 25.37$; df = 1; $p < 0.001$) and 'cheating' ($p < 0.05$; Fisher exact test); they had a lower proportion of affirmative answers for perceiving 'picking fights' ($\chi^2 = 41.64$; df = 1; $p < 0.001$) and 'attacking' ($p<0.001$; Fisher exact test); as being wrong.

Table 3 presents results on social behavior, strengths and difficulties, and school environment with their comparisons and effect sizes. The Wilcoxon-Mann-Whitney statistical test was used on comparison. According to the variables of social behavior, the group of bullies differed from the non-involved group on all scales ($p < 0.001$), with the exception of the 'Socially insecure' scale. Bullies also differed from the non-involved group on the scales of strengths and difficulties ($p < 0.001$). There was no difference between the group of bullies and the non-involved group on the School Environment scales.

	Bullies N=100	Non-involved N=467
Gender		
1. Male N (%)	74 (74)	207 (44.3)
2. Female N (%)	26 (26)	260 (55.6)
OR (CI) (1. vs. 2.)	3.57 (2.20-5.79)***	
Education of father	(N = 96)	(N = 452)
1. Elementary school N (%)	77 (80.2)	351 (77.6)
2. High school N (%)	19 (19.7)	101 (22.3)
OR (CI) (1. vs. 2.)	1.16 (0.67-2.01)	
Fathers with income		
Yes N (%)	89 (89)	436 (93.4)
No N (%)	11 (11)	31 (6.6)
OR (CI) (Yes vs. No)	0.57 (0.27-1.18)	
Parents' relationship		
1. Live together N (%)	84 (84)	416 (89)
2. Do not live together N (%)	16 (16)	51 (10.9)
OR (CI) (1. vs. 2.)	0.64 (0.35-1.18)	
Academic performance	(N = 96)	(N = 452)
1. Good	11 (11.4)	27 (5.9)
2. Excellent	85 (88.5)	425 (94)
OR (CI) (1. vs. 2.)	2.03 (0.97-4.26)	
School nonattendance		
1. 0–10 days N (%)	60 (60)	308 (65.9)
2. 11 and more N (%)	40 (40)	159 (34.0)
OR (CI) (1. vs. 2.)	0.77 (0.49-1.20)	
Individualized curriculum at school		
Yes N (%)	2 (2)	14 (3)
No N (%)	98 (98)	453 (97)
OR (CI) (Yes vs. No)	0.66 (0.14-2.95)	
Receiving free lunch at school		
Yes	12 (12)	27 (5.7)
No	88 (88)	440 (94.2)
OR (CI) (Yes vs. No)	2.22 (1.08-4.55)*	

TABLE 1
Comparison of demographic and family characteristics and school data

Notes. χ^2-test was used.
Totals vary because of missing data.
*p < 0.05, **p < 0.01, ***p < 0.001.
OR = odds ratio. CI = confidence interval.

	Bullies N = 100	Non-involved N = 467
Psychosocial questions		
Safe in school		
1. Always N (%)	63 (63)	333 (71.3)
2. Sometimes N (%)	37 (37)	134 (28.7)
OR (CI) (1. vs. 2.)	0.68 (0.43-1.07)	
Belonging to school		
Yes N (%)	93 (93)	439 (94.0)
No N (%)	7 (7)	28 (6.0)
OR (CI) (Yes vs. No)	0.84 (0.35-1.99)	
Feel sad most of the day		
Yes N (%)	11 (11)	35 (7.4)
No N (%)	89 (89)	432 (92.5)
OR (CI) (Yes vs. No)	1.52 (0.74-3.11)	
High-risk behaviors. Endorse…		
Beating		
Yes N (%)	37 (37)	71 (14.2)
No N (%)	63 (63)	396 (84.8)
OR (CI) (Yes vs. No)	3.27 (2.03-5.28)***	
Cheating	(N = 96)	(N = 452)
Yes N (%)	7 (7.2)	12 (2.6)
No (%)	89 (92.7)	440 (97.3)
OR (CI) (Yes vs. No)	2.88 (1.10-7.52)*	
Carrying guns to school		
1. Very wrong N (%)	97 (97)	461 (98.7)
2. Sometimes wrong N (%)	3 (3)	6 (1.3)
OR (CI) (1. vs. 2.)	0.42 (0.10-1.71)	
Stealing		
1. Very wrong N (%)	85 (85)	401 (85.8)
2. Sometimes wrong N (%)	15 (15)	66 (14.1)
OR (CI) (1. vs. 2.)	0.93 (0.50-1.71)	
Picking fights		
1. Very wrong N (%)	63 (63)	415 (88.8)
2. Sometimes wrong N (%)	37 (37)	52 (11.1)
OR (CI) (1. vs. 2.)	4.76 (2.85-8.33)***	
Attacking		
1. Very wrong N (%)	87 (87)	453 (97)
2. Sometimes wrong N (%)	13 (13)	14 (2.9)
OR (CI) (1. vs. 2.)	5 (2.22-11.11)***	
Smoking cigarettes		
1. Very wrong N (%)	96 (96)	461 (98.7)
2. Sometimes wrong N (%)	4 (4)	6 (1.2)
OR (CI) (1. vs. 2.)	0.31 (0.08-1.12)	

TABLE 2
Comparison of psychosocial questions and high-risk behaviors

Notes. χ^2-test or Fisher exact test was used, as appropriate.
Totals vary because of missing data.
*p < 0.05, **p < 0.01, ***p < 0.001.
OR = odds ratio. CI = confidence interval.

➲ TABLE 3
Comparison and effect size of social behavior, strengths and difficulties, and school environment

	Bullies N = 100	Non-involved N = 467
Social behavior		
Aggressive Dominant M (SD)	2.4 (1.0)***	1.6 (0.7)
Pearson r	0.35	
Disruptive M (SD)	2.2 (0.9)***	1.6 (0.7)
Pearson r	0.29	
Social insecure M (SD)	2.2 (0.7)	2.1 (0.8)
Pearson r	0.00	
Academic ability M (SD)	5.2 (1.6)***	5.8 (1.3)
Pearson r	-0.18	
Prosocial M (SD)	4.3 (1.1)***	4.8 (1.0)
Pearson r	-0.17	
Peer rejection M (SD)	2.9 (1.4)***	2.2 (1.2)
Pearson r	0.19	
Strengths and difficulties		
Prosocial behavior M (SD)	7.6 (2.2)***	8.5 (1.9)
Pearson r	-0.16	
Emotional problems M (SD)	1.8 (2.0)***	1.3 (1.7)
Pearson r	0.12	
School environment		
Student support M (SD)	23.6 (1.9)	23.4 (2.0)
Pearson r	0.04	
Affiliation M (SD)	27.0 (1.7)	27.0 (1.9)
Pearson r	0.00	
Professional interest M (SD)	25.3 (1.9)	24.9 (2.3)
Pearson r	0.06	
Staff freedom M (SD)	22.0 (2.3)	22.2 (2.0)
Pearson r	-0.03	
Participatory decision making M (SD)	19.5 (2.2)	19.6 (2.4)
Pearson r	-0.02	
Innovation M (SD)	23.5 (1.8)	23.2 (2.0)
Pearson r	0.05	

Notes. Wilcoxon-Mann-Whitney test was used.
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Associations of bullying with other factors

Multivariate logistic regression analysis with 11 variables was used to compare the bullies and non-involved groups (Table 4). The method of variable inclusion has been described above in the statistical section. Children of male gender were two times more likely to engage in aggressive behavior than children of female gender (OR = 1.81; CI = 1.04-3.13; $p < 0.05$). Children who approved of beating others had a 1.78 increased likelihood of becoming bullies (OR = 1.78; CI = 1.00-3.16; $p < 0.05$).

Children who considered picking fights as being 'sometimes wrong' had a 2.60 increased likelihood of becoming aggressive when compared to those who perceived it as being 'very wrong' (OR = 2.60; CI = 1.43-4.76; $p < 0.01$). Children showing higher values on the 'Aggressive-Dominant' scale had a four-fold increased likelihood of engaging in aggressive behavior than children with lower values on this scale (OR = 3.95; CI = 2.15-7.30; $p < 0.001$). Other variables yielded no statistically significant differences.

TABLE 4
Comparison of bullies and non-involved (reference category) by multivariate logistic regression analysis (N = 567)

Variable	OR (confidence interval)
Male versus female	1.81 (1.04-3.13)*
Free lunch at school versus no free lunch at school	1.92 (0.82-4.52)
Approving beating (Yes vs. No)	1.78 (1.00-3.16)*
Approving cheating (Yes vs. No)	1.21 (0.39-3.76)
Approving picking fights (sometimes wrong vs. very wrong)	2.60 (1.43-4.76)**
Approving attacking (very wrong vs. sometimes wrong)	0.42 (0.16-1.09)
Aggressive dominant (higher values vs. lower values)	3.95 (2.15-7.30)***
Academic ability	0.91 (0.73-1.13)
Peer rejection	1.09 (0.85-1.39)
Prosocial behavior	1.00 (0.87-1.15)
Emotional problems	1.04 (0.90-1.20)

Notes. OR=odds ratios. *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$.

DISCUSSION

The prevalence of bullying behavior

The first aim of this study was to determine the prevalence of bullies in the city of Split, Croatia. Study results showed that 16.3% of the 567 children studied had been involved in some form of aggressive behavior or bullying, which is in accordance with other international studies from the literature (Smith et al., 1999) and falls at the midpoint of the findings published in Croatia to date; namely, Elez (2003) reports on a prevalence of 37% and Craig et al. (2009) on 13%. This finding runs counter to our preliminary hypothesis. This result is reassuring that our overall prevalence rate is moderate and may be the reason for some optimism.

Associations of bullying with other factors

The second aim of the present study was to investigate the association of bullies group membership with various factors. Study results indicated that aggressive status was associated with the following factors: male gender, child's approval of beating up and picking on other, and the class teacher's evaluation of the child as being aggressive-dominant.

The findings regarding male gender are consistent with other studies in the literature (Olweus, 1994). Furthermore, these findings are consistent with the findings of Profaca, Puhovski, & Luca Mrđen (2005) who emphasize that the provocative victims are more often boys, they are more common in the higher grades of elementary school, they use far less successful and socially unacceptable strategies for protection from bullying, and they tend to react aggressively to violence or keep it to themselves. Šikić (2005) and Keresteš (2006) in their studies recorded differences between boys and girls, where the boys proved more aggressive. It was also shown that boys have more positive attitudes toward aggression, regardless of whether it is a direct or indirect form of aggression.

The 'Aggressive-Dominant' scale was expected to be associated with the aggressive group. This scale describes the child's social behavior as perceived by the teacher's assessment of his/her manifest behavior. Thus, the study results demonstrated that aggressive status revealed the child's self-report to be consistent with the teacher's evaluation. The child's approving attitude towards beating up and picking on other children indicated the child's readiness for aggressiveness based on his/her behavioral characteristics (Dake et al., 2003). The children from the bullies group did not consider picking on other children to be wrong and reported that they 'could hardly wait to be attacked' so they could fight back.

Interestingly, other characteristics, such as academic ability, psychosocial variables, peer rejection, emotional problems and lack of prosocial behavior yielded no association with the bullies group, which is inconsistent with other reports emphasizing these relationships (Boulton & Smith, 1994; Glew et al., 2005). It should be emphasized that Buljan Flander, Durman Marjanović, and Ćorić Špoljarić (2007) found peer rejection to be associated with bullying. Furthermore, examining the connection between aggression and sociometric status, Milanović (2004) found that the overall aggressiveness is associated with poorer sociometric status and rejection by peers. These findings are in contrast with our findings. The results obtained in the present study were considered to be specific for the study factors and for the relatively young age of the study children; in this age group, the 'world of peer social relations' had not yet been fully developed.

Limitations

This study has some limitations. The first limitation could be the use of the simplified questionnaire proposed by Glew et al. (2005), which is based on the original questionnaire by Olweus (1996). On the one hand, this questionnaire actually focuses more on aggression toward others and lacks the criteria

of intentionality and of asymmetry of power between the bully and the victim. Thus, the present study assessed aggressiveness and bullying in a broad sense. On the other hand, the questionnaire has only two questions, while the original questionnaire of Olweus (1996) has a total of 16 questions (eight for bullying, and eight for victimization), and does not address the problem of relational bullying or aggressiveness, which is, in some ways, an inadequacy of the questionnaire, and it is possible that this affected the obtained results. Our opinion is that this deficiency may have had impact on the results of the study, and it is possible that the prevalence of bullying is smaller than it really is. Additionally, in our opinion, the results for the prevalence of the whole sample group may be further underestimated because this study did not measure other possible groups that are involved in the problem of bullying ('victims', 'bully-victims'). The advantage of this instrument is its convenience, but we are aware that a better choice would be the instrument that has already been used in Croatia. Furthermore, using different cut-off scores for measuring victimisation and bullying is problematic. Specifically, the bullying status had 4 response options (unlike the original questionnaire with 5 response options) and the cut-off score was '2-3 a month', while for the victimization status there were only three response options (unlike the original questionnaire with 5 response options) and the cut-off score was 'always,' and for this reason it can be difficult to compare such results. Consequently, as previously stated in the paper, for these reasons the groups 'victims' and 'bully--victims' were excluded from the study.

The second limitation of this study is in the methodology used and the translations of questionnaires into the Croatian language. To our knowledge, there were no prior published studies using this methodology, and there were no psychometric data from Croatia available for the questionnaires we used. In this study, we translated three questionnaires (survey concerning aggressiveness; TCSB and SLEQ), whereas the SDQ questionnaire was available via the internet. Although we used the standard procedure in translation (translation followed by back-translation), it is possible that there was wording inadequacy for some specific terms. This inadequacy could explain why for some subscales, the Cronbach alpha was so low; we were forced to omit these subscales from further analysis.

The third limitation is that the majority of questionnaires were filled out by teachers; indeed, only one questionnaire was filled out by the children. The study would be more valuable if a multi-informative (parents, children, teachers) method was used together with the self-reports, observational

data and interviews. In this sense, there is a question concerning the validity of the teacher's answers. However, the authors of this study had some preliminary hypotheses and clinical impressions that teachers would be sufficiently valid sources to answer these questions. Namely, teachers had been acquainted with the children and their parents for many years. Furthermore, the authors had some preliminary ideas on how to translate the study aims into practice. It seemed to us that inclusion of parents in this study would be connected with a more dubious procedure for collecting data and making the scope of the study too broad.

The fourth limitation could be the cross-sectional design employed, which cannot provide answers to causal conclusions. It is well known from the literature that a longitudinal design is superior in revealing associations for some factors in temporal sequence.

Finally, we could consider that this study is specific to the Croatian socio-cultural milieu, thus limiting the generalizibility of our findings.

PRACTICAL GUIDELINES

By accepting the trichotomy of factors and adopting strategies for intervention to reduce risk factors and stimulate the development of promotional (or neutral) factors (Stouthamer Loeber, Loeber, Wei, Farrington, & Wikström, 2002), we can approach the problem investigated in this study in several ways. We need to conduct interventions related to the following risk factors: manifestly aggressive behavior and for approving attitudes toward aggressiveness. According to our study, such interventions should be carried out to the boys. We might attempt to make these factors neutral. In that sense, interventions for bullies and their families need to be a priority.

Additionally, we need to take into account the already-existing 'neutral' variables, such as supportive school environment, family relations and prosocial tendencies and make them as 'promotional' as possible. In this sense, the awareness of the bullying problem, psychoeducation of parents, preventive programs and supportive relationships with peers can be of great importance.

REFERENCES

Anstine Templeton, R., & Johnson, C. E. (1998). Making the school environment safe: Red rose's formula. *Learning Environments Research, 1*(1), 35–57. doi:10.1023/A:1009984631570

Bašić, J., Ferić, M., & Kranželić, V. (2001). *Od primarne prevencije do ranih intervencija (From primary prevention to early interventions)*. Zagreb: Edukacijsko-rehabilitacijski fakultet Sveučilišta u Zagrebu.

Boulton, M. J., & Smith, P. K. (1994). Bully/victim problems in middle--school children: Stability, self-perceived competence, peer percep-

tion and peer acceptance. *British Journal of Developmental Psychology, 12*(3), 315–329. doi:10.1111/j.2044-835X.1994.tb00637.x

Buljan Flander, G., & Čosić, I. (2004). Nasilje među djecom (Violence among children). *Medix, 10*(52), 90–92.

Buljan Flander, G., Durman Marjanović, Z., & Ćorić Špoljarić, R. (2007). Pojava nasilja među djecom s obzirom na spol, dob i prihvaćenost/odbačenost u školi (Bullying in Croatian schools with regard to gender, age, and acceptance/rejection in school). *Društvena istraživanja, 16*(1–2), 157–174.

Coie, J. D., & Dodge, K. A. (1988). Multiple sources of data on social behaviour and social status in the school: A cross-age comparison. *Child Development, 59*(3), 815–829. doi:10.2307/1130578

Craig, W., Harel-Fisch, Y., Fogel-Grinvald, H., Dostaler, S., Hetland, J., & Simons-Morton, B. et al. (2009). A cross-national profile of bullying and victimization among adolescents in 40 countries. *International Journal of Public Health, 54*(2), 216–224. doi:10.1007/s00038-009-5413-9

Dake, J. A., Price, J. H., & Telljohann, S. K. (2003). The nature and extent of bullying at school. *Journal of School Health, 73*(5), 173–180. doi:10.1111/j.1746-1561.2003.tb03599.x

Due, P., Merlo, J., Harel-Fisch, Y., Damsgard, M. T., Holstein, B. E., Hetland, J., Currie, C., Nic Gabhainn, S., Gaspar de Matos, M., & Lynch, J. (2009). Socioeconomic inequality in exposure to bullying during adolescence: A comparative, cross-sectional, multilevel study in 35 countries. *American Journal of Public Health, 99*(5), 907–914. doi:10.2105/AJPH.2008.139303

Elez, K. (2003). *Nasilništvo i samopoimanje u djece osnovnoškolske dobi (Bullying and self-concept in elementary school children)* (Graduate thesis). Zagreb: Faculty of Philosophy, Department of Psychology, University of Zagreb.

Fisher, D. L., & Fraser, B. J. (1991). Validity and use of school-level environment instruments. *Journal of Classroom Interaction, 26*(2), 13–18.

Fisher, D. L., Fraser, B. J., & Wubbels, T. (1993). Interpersonal teacher behaviour and school climate. In T. Wubbels, & J. Levy (Eds.), *Do you know what you look like? Interpersonal relationships in education* (pp. 103–112). London: The Falmer Press.

Glew, G. M., Fan, M. Y., Katon, W., Rivara, F. P., & Kernic, M. (2005). Bullying, psychosocial adjustment, and academic performance in elementary school. *Archives of Pediatrics & Adolescent Medicine, 159*(11), 1026–1031. doi:10.1001/archpedi.159.11.1026

Goodman, R. (1997). The Strengths and difficulties questionnaire: A research note. *Journal of Child Psychology and Psychiatry, 38*(5), 581–586. doi:10.1111/j.1469-7610.1997.tb01545.x

Goodman, R. (2001). Psychometric properties of the Strengths and difficulties questionnaire. *Journal of the American Academy of Child and Adolescent Psychiatry, 40*(11), 1337–1345. doi:10.1097/00004583-200111000-00015

Keresteš, G. (2006). Mjerenje agresivnoga i prosocijalnoga ponašanja školske djece: usporedba procjena različitih procjenjivača (Mea-

suring school-children's aggressive and prosocial behavior: Comparison of ratings of different informants). *Društvena istraživanja, 15*(1), 241–264.

Kramar, V. (2004). *Odnos samoefikasnosti, agresivnosti i obiteljskih interakcija kod djece osnovnoškolske dobi (Relationship between self-efficacy, aggressivenes and family interactions in early adolescence)* (Graduate thesis). Zadar: Faculty of Philosophy, Department of Psychology, University of Zadar.

Lochman, J. D., Coie, J. D., Underwood, M. K., & Terry, R. (1993). Effectiveness of social relations intervention program for aggressive and nonaggressive, rejected children. *Journal of Consulting and Clinical Psychology, 61*(6), 1053–1058. doi:10.1037//0022-006X.61.6.1053

Milanović, A. (2004). *Povezanost različitih vrsta agresivnosti i sociometrijskog statusa kod djece osnovnoškolske dobi. (The relationship between different types of aggression and sociometric status in elementary school children)* (Graduate thesis). Zagreb: Faculty of Philosophy, Department of Psychology, University of Zagreb.

Nansel, T., Overpeck, M., Pilla, R., Ruan, W., Simons-Morton, B., & Scheidt, P. (2001). Bullying behaviors among US youth. *The Journal of the American Medical Association, 285*(16), 2094–2100. doi:10.1001/jama.285.16.2094

Natvig, G. K., Albrektsen, G., & Qvarnstrom, U. (2001). School-related stress experience as a risk factor for bullying behavior. *Journal of Youth and Adolescence, 30*(5), 561–575. doi:10.1023/A:1010448604838

Olweus, D. (1993). *Bullying at school: What we know and what we can do.* Oxford: Blackwell.

Olweus, D. (1994). Bullying at school: Basic facts and effects of a school-based intervention program. *Journal of Child Psychology and Psychiatry, 35*(7), 1171–1190. doi:10.1111/j.1469-7610.1994.tb01229.x

Olweus, D. (1996). *The revised Olweus bully/victim questionnaire*. Bergen: University of Bergen.

Profaca, B., Puhovski, S., & Luca Mrđen, J. (2005). Neke karakteristike pasivnih i provokativnih žrtava nasilja među djecom u školi (Some characteristics of passive and provocative victims of bullying). *Društvena istraživanja, 15*(3), 575–590.

Sandstrom, M. J., & Schanberg, L. E. (2004). Brief report: Peer rejection, social behavior, and psychological adjustment in children with juvenile rheumatic disease. *Journal of Pediatric Psychology, 29*(1), 29–34. doi:10.1093/jpepsy/jsh004

SDQ. Information for researches and professionals about the Strengths and difficulties questionnaires. Available on http://www.sdqinfo.com.

Sekol, I., & Farrington, D. P. (2009). The nature and prevalence of bullying among boys and girls in Croatian care institutions: A descriptive analysis of children's homes and correctional homes. *Kriminologija i socijalna integracija, 17*(2), 15–34.

Smith, P. K., Morita, Y., Junger-Tas, J., Olweus, D., Catalano, R., & Slee, P. (1999). *The nature of school bullying. A cross-national perspective.* London: Routledge.

Stouthamer-Loeber, M., Loeber, R., Wei, E., Farrington, D. P., & Wikström, P. O. H. (2002). Risk and promotive effects in the explanation of persistent serious delinquency in boys. *Journal of Consulting and Clinical Psychology, 70*(1), 111–123. doi:10.1037/0022-006X.70.1.111

Šikić, S. (2005). *Povezanost stavova prema agresivnosti i agresivnog ponašanja kod djece osnovnoškolske dobi (The relationship between attitudes towards aggression and aggressive behavior in elementary school children)* (Graduate thesis). Zagreb: Faculty of Philosophy, Department of Psychology, University of Zagreb.

Tomić-Latinac, M., & Nikčević-Milković, A. (2009). Procjena učinkovitosti UNICEF-ovog programa prevencije vršnjačkog nasilja i zlostavljanja (Evaluation of UNICEF bullying prevention programme efficiency). *Ljetopis socijalnog rada, 16*(3), 635–657.

Ttofi, M. M., & Farrington, D. P. (2012). Risk and protective factors, longitudinal research, and bullying prevention. *New Directions for Youth Development, 133,* 85–98. doi:10.1002/yd.20009

Vrselja, I., Sučić, I., & Franc, R. (2009). Rizična i antisocijalna ponašanja mlađih adolescenata i privrženost školi (Risky and antisocial behavior among young adolescents and school attachment). *Društvena istraživanja 18*(4), 739–762.

Zimmerman, F. J., Glew, G. M., Christakis, D. A., & Katon, W. (2005). Early cognitive stimulation, emotional support, and television watching as predictors of subsequent bullying among grade-school children. *Archives of Pediatrics & Adolescent Medicine, 159*(4), 384–388. doi:10.1001/archpedi.159.4.384

Žižak, A., & Jeđud, I. (2005). Agresivnost djece i mladih (Aggressiveness in children and youth). *Dijete i društvo, 7*(1), 60–75.

Vršnjačko nasilje kod djece u Splitu, Hrvatska: povezanost s općim, psihosocijalnim, ponašajnim i školskim čimbenicima

Sanja ĆAKIĆ
Srednja tehnička prometna škola, Split

Branka BEGOVAC, Silvana PLEŠTINA, Trpimir JAKOVINA
Medicinski fakultet, Klinički bolnički centar, Zagreb

Maja CRNKOVIĆ
Klinički bolnički centar "Sestre milosrdnice", Zagreb

Ivan BEGOVAC
Medicinski fakultet, Klinički bolnički centar, Zagreb

Prvi cilj rada bio je utvrditi udio vršnjačkoga nasilja u gradu Splitu u Hrvatskoj. Drugi cilj bio je povezati vršnjačko nasilje s općim i psihosocijalnim varijablama, ponašanjem te sa školskim okruženjem. Ovo presječno istraživanje s upitnicima za samoispunjavanje provedeno je na 567 djece, koja su

anonimno procjenjivala svoj status (klasificirani kao nasilnici te kontrolna skupina), te 166 nastavnika, koji su procjenjivali druge varijable. Djeca u uzorku bila su odabrana iz 21 škole. Rezultati su pokazali da je 16,3% djece bilo uključeno u agresivno ponašanje. Regresijska analiza pokazala je da je skupina nasilne djece u odnosu na kontrolnu skupinu značajno više povezana s agresivnim ponašanjem, odobravanjem agresivnosti, i s muškim spolom. Prevalencija i povezanost različitih varijabli podudaraju se s rezultatima drugih međunarodnih studija. Prioritet će imati intervencije za dječake koji pokazuju nasilničko ponašanje i imaju nasilne stavove, kao i za njihove obitelji.

Ključne riječi: vršnjačko nasilje, škola, djeca