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Bullying and subjective health among adolescents at schools in Latvia and Lithuania

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Summary

Objectives: To investigate the prevalence of bullying among adolescents in Latvia and Lithuania and to study its association with self-rated health, health complaints, and life satisfaction.
Methods: A total of 3 417 students in Latvia and 5 626 in Lithuania were surveyed using the Health Behaviour Study among School-aged Children 2001/2002 (HBSC) questionnaire and research protocol.
Results: Being a victim, bully, or bully/victim was reported by 30.1 % adolescents in Latvia and 52.3 % in Lithuania with the highest proportion reporting being a victim. Bullying was associated with poor subjective health and low life satisfaction.
Conclusions: The factors explaining the difference of bullying prevalence between both countries should be studied to develop effective anti-bullying interventions relevant to local conditions.

Keywords: Bullying – Health – Adolescence.

Bullying among school-aged children is increasingly being recognized as a problem in public health research and practice because of its negative association with health and well-being. Being repeatedly bullied has been associated with an increased risk of psychiatric or psychological problems including depression, loneliness, and even suicidal ideation or attempts.[1,2,3,4,5] Moreover, being bullied ('victims') or bullying others ('bullies') has also been associated with more physical and psychological health complaints.[6,7,8,9,] A separate group of interest are those adolescents who are simultaneously victims of bullying and bullies themselves ('bullies/victims'). Studies report that bullies/victims are a distinct group who may be at highest risk for behavioural, psychological and psychosomatic problems.[1,8,10]

Although there is an awareness of the problems associated with bullying in Latvia and Lithuania, there is little published information about bullying prevalence and its associated factors that hampers planning and implementing effective national anti-bullying interventions.

Both Latvia and Lithuania are participants in the international Health Behaviour Study among School-aged Children (HBSC). This study provides comparable information on health and health behaviours among adolescents in HBSC participating countries from the use of a standardised research protocol for questionnaire content, design and administration. The purpose of this study was to use the HBSC data for an in-depth examination of the prevalence of involvement in bullying at schools in Latvia and Lithuania among girls and boys in different adolescent age groups. In addition, associations of bullying with self-rated health, health complaints, and life satisfaction were studied independently of gender and age.

Methods

HBSC is a cross-national research project conducted by an international network of research teams in collaboration with the WHO Regional Office for Europe. The International Coordinator of the 2001/2002 survey was Candace Currie (University of Edinburgh, Scotland) and the Data Bank Manager was Oddrun Samdal (University of Bergen, Norway). HBSC surveys are carried out at four-year intervals. The present analysis is drawn from the 2001/2002 survey in Latvia and Lithuania.

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Table 1. Unadjusted prevalence of bullying in Latvia and Lithuania (%).

	Neither victims nor bullies % (n)	Pure victims % (n)	Pure bullies % (n)	Bullies/victims % (n)
Latvia				
Overall (n = 3417)	69.9 (2390)	14.0 (480)	10.4 (356)	5.6 (191)
Boys (n = 1585)	61.5 (974)	16.0 (253)	15.0 (237)	7.6 (121)
11 year olds (n = 555)	66.7 (370)	19.6 (109)	7.7 (43)	5.9 (33)
13 year olds (n = 555)	57.1 (317)	16.6 (92)	17.3 (96)	9.0 (50)
15 year olds (n = 475)	60.4 (287)	10.9 (52)	20.6 (98)	8.0 (38)
Girls (n = 1806)	77.5 (1400)	12.3 (223)	6.4 (116)	3.7 (67)
11 year olds (n = 601)	81.9 (492)	13.0 (78)	2.7 (16)	2.5 (15)
13 year olds (n = 581)	73.0 (424)	15.5 (90)	7.9 (46)	3.6 (21)
15 year olds (n = 624)	77.6 (484)	8.8 (55)	8.7 (54)	5.0 (31)
Lithuania				
Overall (n = 5626)	47.7 (2684)	18.3 (1027)	17.9 (1007)	16.1 (908)
Boys (n = 2876)	42.1 (1211)	16.6 (477)	21.5 (619)	19.8 (569)
11 year olds (n = 945)	49.3 (466)	20.5 (194)	13.2 (125)	16.9 (160)
13 year olds (n = 952)	39.2 (373)	17.2 (164)	22.3 (212)	21.3 (203)
15 year olds (n = 979)	38.0 (372)	2.2 (119)	28.8 (282)	21.0 (206)
Girls (n = 2749)	53.3 (1472)	20.0 (550)	14.1 (388)	12.3 (339)
11 year olds (n = 914)	14.1 (388)	23.0 (210)	8.1 (74)	9.6 (88)
13 year olds (n = 916)	20.0 (550)	20.7 (190)	16.3 (149)	13.2 (121)
15 year olds (n = 919)	12.3 (339)	16.3 (150)	18.0 (165)	14.1 (130)

The target population comprises adolescents aged 11, 13 and 15 years. The data are collected in the classroom through self-administrated anonymous questionnaires. For details regarding methodology see Roberts et al.[11]

Respondents in both countries were selected using a clustered sampling design from the state school registers. The response rate at the individual level was 80 % in Latvia and 92 % in Lithuania. The number of students participating was 3 481 in Latvia and 5 645 in Lithuania. Their distribution by age and gender was comparatively homogenous in both countries. Students with missing information about having been bullied or bullying others were excluded from the prevalence analyses (Latvia n = 64, 1.8 %; Lithuania n = 19, 0.34 %) leaving a sample of 3 147 respondents in Latvia and 5 626 in Lithuania for statistical analyses. In regression analyses, for questions about self-rated health, health complaints, and life satisfaction further reduction in sample size occurred, ranging from 1.0-4.0 % depending on the question.

Bullying experience was measured by the following two questions: "How often have you been bullied at school in the past couple of months?", and "How often have you taken part in bullying another student(s) at school in the past couple of months?" Respondents were classified into four groups as follows: 1) 'neither bullies nor victims' (neither bullied others nor been bullied), 2) 'pure victims' (only have been bullied), 3) 'pure bullies' (only have bullied others), and 4) 'bullies/victims' (both victims and bullies). According to validation studies, a bullying frequency of "2 or 3 times a month" was used as the lower cut-off point to create each bullying group.[12]

A single question asked students to rate their health as "excellent", "good", "fair", and "poor". Responses were dichotomized into "excellent or good" and "fair or poor".

Health complaints were measured by reported frequency of headache, stomach ache, backache, nervousness, irritability or bad temper, difficulties in getting to sleep, and dizziness during the last six months. Answers were dichotomized into "weekly" (about every day, more than once a week, about every week) and "rarely or never" (about every months, rarely or never).

Life satisfaction was measured using the 10 steps of Cantril's ladder. Students were asked to indicate the step of the ladder at which they would place their lives at present. A score of 5 or less was defined as a low level of life satisfaction.

Data management and general statistical analyses were performed using SPSS (version 15.0) and statistical significance was established at $p < 0.05$. The multilevel logistic regression model with binomial variance at the individual level and random intercept variance at the class level was estimated using MLwiN (version 2.0). In the model the effect of bullying on self-rated health, health complaints, and life satisfaction were investigated. The interaction term between bullying and country variables (Latvia or Lithuania) was also included into

Table 2. Odds ratios (OR) of association between bullying and self-rated health, weekly health complaints and life satisfaction adjusted for country, gender, and age with interaction between bullying and country considered [a,b].

	Pure victims		Pure bullies		Bullies/victims	
	OR	CI, 95 %	OR	CI, 95 %	OR	CI, 95 %
Self-rated health						
Fair or poor	2.29***	1.83–2.86	1.22 NS	0.92–1.62	2.17***	1.55–3.04
Weekly health complaints						
Headache	1.80***	1.43–2.27	1.00 NS	0.74–1.34	2.28***	1.63–3.19
Nervousness	2.29***	1.84–2.84	1.47**	1.14–1.89	3.01***	2.18-4.15
Irritability or bad temper	1.84***	1.50–2.27	1.33*	1.05–1.68	2.55***	1.84–3.53
Difficulties in getting to sleep	1.92***	1.54–2.40	1.52***	1.16–1.98	1.93***	1.38–2.68
Feeling dizziness	2.46***	1.83–3.31	1.54*	1.05–2.27	1.99***	1.26–3.14
Stomach ache	2.27***	1.75–2.93	1.13 NS	0.80–1.62	2.56***	1.76–3.72
Backache	1.84***	1.41–2.41	1.19 NS	0.85–1.66	1.71**	1.15–2.55
Life satisfaction						
Low life satisfaction	2.61***	2.07–3.28	1.20 NS	0.90–1.62	2.39***	1.71–3.36

[a] reference category – neither bullies nor victims
[b] NS – not significant; *p <0.05; **p <0.01; ***p <0.001

the model. All estimates were adjusted for age, gender and country. The odds ratios are presented with 95 % confidence intervals.

Results

Table 1 summarizes the unadjusted prevalence of bullying experience by country, gender and age groups. Comparisons by country showed that the overall prevalence of bullying was significantly higher in Lithuania than Latvia (30.1 % vs. 52.3 % respectively, p <0.001). In both countries the bullies/victims group had the fewest respondents (p <0.001). In Latvia more students reported being pure victims than pure bullies (p <0.001). This was also the case in Lithuania although the difference is not significant. Table 1 also shows that a higher proportion of boys in Lithuania as compared to Latvia reported being pure bullies or bullies/victims (p <0.001) while there were no significant differences in being a pure victim. Among girls in Lithuania the prevalence of being involved in bullying is almost consistently two to three times higher than in Latvia (p <0.00). Furthermore, this higher level of experience with bullying among Lithuanian girls is consistently reflected at each age (p <0.001).

Comparisons by gender revealed significant differences in both countries. In both countries, experience with bullying was higher among boys than girls (p <0.001), except in Lithuania where the total percentage of pure victims was slightly higher among girls (p <0.001). The gender differences were significant in all age groups among pure bullies and bullies/victims (p <0.001). However, statistically significant gender differences among pure victims were observed only in 11 year olds in Latvia (p <0.001) and 15 year olds in Lithuania (p <0.01).

Comparisons by age groups showed that being a pure victim decreases with age in both countries (p <0.001). Conversely, the prevalence of being a pure bully increases with age in both countries although the differences are statistically significant only between 11 and 15 year olds (p <0.001). Compared to 13 year olds, the prevalence of pure bullies among 15 year olds was significantly higher only among boys in Lithuania (p <0.001). The highest proportion of bullies/victims was reported among 13 and 15 year olds boys and girls in both countries. However, statistically significant differences, compared to 11 year olds (p <0.01), were found only in Lithuania.

Overall, 27.8 % of adolescents in Latvia and 32.2 % in Lithuania self-rated their health as fair or poor (p <0.001). The most prevalent weekly health complaint in both countries was nervousness (36.8 %) followed by irritability or bad temper (32.5 %), headache (28.0 %) and difficulties getting to sleep (21.3 %) with lower rates for dizziness (14.5 %), stomach ache (17.9 %) and backache (14.1 %). Reports of headache, feeling dizziness, stomach ache, and irritability or bad temper were significantly higher in Lithuania than in Latvia (p <0.001) while difficulties in getting to sleep was higher in Latvia (p <0.001). No country difference was found for nervousness and backache. Reports of low life satisfaction did not differ significantly between Latvia (23.2 %) and Lithuania (24.9 %).

Table 2 shows the odds ratios for self-rated health, health complaints, and life satisfaction in bullying groups adjusted for age, gender and country. Compared to those who had never

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been involved in bullying, pure victims were more likely to rate their health as fair or poor (OR 2.29; 95 % CI 1.83–2.86), report experiencing weekly health complaints (OR ranging from 1.80 to 2.61), and report low life satisfaction (OR 2.61; 95 % CI 2.07–3.28).

Neither self-rated health nor life satisfaction was associated with being a bully. However, being a pure bully was associated with weekly nervousness, irritability or bad temper, difficulties in getting to sleep and dizziness (OR ranging from 1.33 to 1.54). No association was found with having weekly headache, stomach ache, or backache.

Bullies/victims were significantly more likely to rate their health as fair or poor (OR 2.17; 95 % CI 1.55–3.04), report all of the weekly health complaints (OR ranging from 1.71 to 3.01), and report low life satisfaction (OR 2.39; 95 % CI 1.71–3.36). The largest odds ratios observed were for nervousness (OR 3.01; 95 % CI 2.18–4.15).

For most of the measures, the interaction between bullying and country showed a negative influence on the OR estimation, therefore, with a few exceptions, the interaction terms were not statistically significant.

Discussion

Compared to other countries in the HBSC study, the prevalence of bullying is high in both Latvia and Lithuania.[4,9,13,14] Our study revealed that despite many similarities in living conditions and the education system, significant differences in adolescents' experience with bullying exist between the two countries. Prevalence is significantly higher in Lithuania than in Latvia overall and in comparisons by gender and age. The higher levels are particularly striking in between country comparison of girls in all bullying groups and boys who report being bullies/victims.

In part, the higher prevalence in Lithuania may reflect translation problems as different languages are spoken in the two countries. Although standard procedures including back translations were followed, the terminology used to describe bullying in the HBSC questionnaire in each country may still have failed to capture equivalent meanings and behavioural associations that adolescents attach to particular terms. It may also be that cultural norms for what is considered bullying behaviour differ. To further explore translation, and cultural differences, it may be fruitful to use qualitative methodology to further delineate the meanings and behaviours adolescents attach to different bullying terms, and their attitudes to engaging in such behaviours.

Since the data were collected in schools where adolescents spend the greater part of their day, another fruitful line of inquiry into factors associated with between country differences in bullying prevalence would be to examine school variables. Cross-national comparisons have already shown that adolescents involved in bullying report poorer school adjustment and problems with relationships at school.[15] Investigations could be extended to include multi-level modelling analyses that include school level variables such as visible involvement of adults in school life, clear school policy about unacceptable behaviour, monitoring of students, or use of non-hostile, non-physical consequences for infractions, all of which have been shown to be important factors in anti-bullying programs.[16]

Latvia and Lithuania are also among the HBSC countries with the highest proportions of boys and girls in all age groups who self-rate their health as poor, report weekly health complaints, and report low life satisfaction.[13] Consistent with other studies[6,7,8,9], this study showed that having experience with bullying either as a victim, bully or victim/bully is associated with a higher likelihood of reporting poorer self-rated health, a variety of weekly health complaints, and lower life satisfaction, although some variation by the nature of the bullying experience was found. Most vulnerable appear to be bullies/victims. Research findings suggest that the multiple problems bullies/victims experience with psychosocial functioning, coupled with engagement in other problem behaviours make them a distinct group needing special interventions.[17]

From a health promotion perspective, the high prevalence of bullying in Latvia and Lithuania points to the need for programs that raise awareness of behaviours that are considered as bullying. These must be coupled with comprehensive interventions in schools and the community to reduce its prevalence. The differences between Latvia and Lithuania suggest, however, that considerable care must be taken to develop intervention programs tailored to local needs and cultural settings within each country.

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References

1. Kumpulainen K, Räsänen EK, Henttonen I, et al. Bullying and psychiatric symptoms among elementary school-age children. Child Abuse Negl 1998;22:705–17.

2. Kaltiala-Heino R, Rimpela M, Marttunen M, Rimpela A, Rantanen P. Bullying, depression, and suicidal ideation in Finnish adolescents: school survey. Br Med J 1999;319:348–51.

3. Rigby K & Slee PT. Australia. In: Smith PK, Morita Y, Junger-Tas J, Olweus D, Catalano R, Slee P, eds. The nature of school bullying. A cross-national perspective. London, New York: Routledge, 2000:324–40.

4. Nansel TR, Overpeck M, Pille RS, Ruan WJ, Simons-Morton BG, Scheidt P. Bullying behavior among U.S. youth: prevalence and association with psychological adjustment. JAMA 2001;285:2094–100.

5. Ivarsson T, Broberg AG, Arvidsson T, Gillberg C. Bullying in adolescence: psychiatric problems in victims and bullies as measures by the Youth Self Report and the Depression Self-Rating Scale. Nord J Psychiatry 2005;59:365–73.

6. Forero R, McLellan L, Rissel C, Bauman A. Bullying behaviour and psychosocial health among school students in New South Wales, Australia: cross sectional survey. Br Med J 1999;319:344–8.

7. Williams K, Chambers M, Logan S, Robinson D. Association of common health symptoms with bullying in primary schoolchildren. Br Med J 1996;313:17–9.

8. Wolke D, Woods S, Bloomfield L, Karstadt L. Bullying involvement in primary school and common health problems. Arch Dis Child 2001;85:197–201.

9. Due P, Holstein BE, Lynch J, et al. Bullying and symptoms among school-aged children: international comparative cross sectional study in 28 countries. Eur J Public Health 2005;15:28–32.

10. Wolke D, Woods S, Bloomfield L, Karstadt L. The association between direct and relational bullying and behaviour problems among primary school children. J Child Psychol Psychiatry 2000;41:989–1002.

11. Roberts C, Currie C, Samdal O, Currie D, Smith R, Maes L. Measuring the health and health behaviours of adolescents through cross-national survey research: recent developments in the Health Behaviour in School-aged Children (HBSC) study. J Public Health 2007;15:179–86.

12. Solberg ME, Olweus D. Prevalence estimation of school bullying with the Olweus Bully/Victim Questionnaire. Aggress Behav 2003;29:239–68.

13. Currie C, Roberts C, Morgan A, et al., eds. Young People's Health in Context. Health – Behaviour in School – aged Children: a WHO Cross-National Study (HBSC). International Report. World Health Organization, 2004:55–63;133–43.

14. Zaborskis A, Cirtautiene L, Zemaitiene N. Bullying in Lithuanian schools in 1994–2002. Medicina (Kaunas) 2005;41:614–20.

15. Nansel TR, Craig W, Overpeck MD, Saluja G, Ruan J, Health Behaviour in School-aged Children Bullying Analyses Working Group. Cross-national consistency in the relationship between bullying behaviours and psychosocial adjustment. Arch Pediatr Adolesc Med 2004;158:730–6.

16. Olweus D. Bullying at school: basic facts and effects of a school based intervention program. J Child Psychol Psychiatry 1994;35:1171–90.

17. Haynie DL, Nansel T, Eitel P, et al. Bullies, victims, and bully/victims: distinct groups of at-risk youth. J Early Adolesc 2001;21:29–49.

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