

Cross-national time trends in bullying victimization in 33 countries among children aged 11, 13 and 15 from 2002 to 2010

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Background: Bullying among children and adolescents is a public health concern; victimization is associated with psychological and physical health problems. The purpose of this study is to examine temporal trends in bullying victimization among school-aged children in Europe and North America. **Methods:** Data were obtained from cross-sectional self-report surveys collected as part of the Health Behaviour in School-aged Children (HBSC) study from nationally representative samples of 11-, 13- and 15-year-olds, from 33 countries and regions which participated in the 2001–02, 2005–06 and 2009–10 surveys. Responses from 581 838 children were included in the analyses. Binary logistic regression was used for the data analyses. **Results:** The binary logistic regression models showed significant decreasing trends in occasional and chronic victimization between 2001–02 and 2009–10 across both genders in a third of participating countries. One country reported significant increasing trends for both occasional and chronic victimization. Gender differences in trends were evident across many countries. **Conclusion:** Overall, while still common in many countries, bullying victimization is decreasing. The differences between countries highlight the need to further investigate measures undertaken in countries demonstrating a downward trend.

Introduction

Bullying is a worldwide health problem among children and adolescents; a subject which has demanded much attention due to its detrimental and enduring consequences.¹ Bullying is defined as intentional harmful behaviour, carried out repeatedly, against an individual who is unable to defend themselves.² Extensive research has demonstrated a number of negative outcomes associated with experiencing bullying, including psychological maladjustment,^{3,4} psychosomatic health problems⁴ and suicide.⁵ Moreover, bullying perpetration and victimization were found to be associated with various risk behaviours such as drinking, illegal substance use and smoking.^{6,7} Given the severe and universal nature,⁸ it is imperative bullying be understood cross-nationally so that lessons may be learnt from countries successful at reducing bullying.

The Health Behaviour in School-aged Children (HBSC) study⁹ provides a unique opportunity to compare bullying victimization, of varying extents, over time and across different countries. This study examines temporal trends in bullying victimization across 33 countries and regions from the last three cycles of the HBSC study. This article extends and compliments previous research examining temporal trends in bullying by including more countries in the analysis and extending the time frame.¹⁰ This study aims to identify countries in which bullying victimization has increased or decreased over an 8-year period, serving as a basis for policy interpretation, particularly around social policies influencing bullying behaviours among school-aged children.

Methods

Sample

The HBSC study collects data every 4 years from nationally representative samples of 11-, 13- and 15-year-old children, using

anonymous self-report questionnaires administered in school.⁹ This article used HBSC data collected from 33 countries and regions in 2001–02, 2005–06 and 2009–10. The total sample size for this study was 581 838 children.

Measures

Victimization from bullying was assessed using the question 'How often have you been bullied at school in the past couple of months?'; with the response options 'I have not been bullied at school in the past couple of months', 'It has only happened once or twice', '2–3 times a month', 'About once a week' and 'Several times a week'. The measure was preceded by a preamble, developed by Olweus,¹¹ which defines the concept of bullying.

Victimization was divided into two levels: occasional victimization (once or more in the last couple of months) and chronic victimization (2–3 times a month or more). Binary outcomes were created based on the responses given to the questions where occasional was defined as 'once or more' vs. 'never', and chronic was defined as '2 or more times a month' vs. 'twice or less in the past couple of months'. Binary outcomes were created in line with an existing paper examining temporal trends in bullying¹⁰ which this study builds on.

Statistical analyses

Data analyses were conducted using IBM SPSS Statistics Version 20. Socioeconomic status (SES) was measured using the HBSC Family Affluence Scale¹² and all three age categories were aggregated into a single age group. Binary logistic regressions models were used to indicate the significance of the observed trend. Models were run for each country and by gender controlling for age group and SES.

Results

Overall, occasional victimization has decreased from 33.5 in 2001–02 to 29.2% in 2009–10. Table 1 presents the percentage of occasional victimization by gender across countries and over time. In total, 11 out of 33 countries demonstrated statistically significant decreasing trends in occasional victimization for both genders; including Croatia, Denmark and Portugal. In addition, England, Norway and Spain reported lower rates of bullying victimization in 2009–10 compared with 2001–02 for both boys and girls; however, these countries did not show consistent downward trends across the three surveys. A number of countries only presented statistically significant decreasing trends for either boys or girls; Ukraine, for example, reported a statistically significant decrease of 6.8% for occasional victimization among boys, but a non-significant 2.8% decrease among girls. Of the 33 countries, French Belgium and Finland reported significant increasing trends in occasional victimization for both genders.

Decreases were also reported in chronic victimization for both genders from 12.7 in 2001–02 to 11.3% in 2009–10. Three out of the 33 countries—Denmark, Italy and the Netherlands—demonstrated decreasing trends in chronic victimization from 2001–02 to 2009–10 (table 2). Spain and Lithuania also reported lower rates of chronic bullying for both boys and girls in 2009–10 compared with 2001–02, but this was not a trend observed over the three surveys. As with occasional victimization, many countries only presented significant trends for either boys or girls. Among boys alone, chronic victimization decreased significantly in six countries (Croatia, England, Germany, Norway, Sweden and USA) and

increased in four (Austria, France, Hungary and Scotland). Among girls alone, there was a significant decreasing trend in three countries (Greenland, Lithuania and Macedonia). Of the 33 countries only French Belgium reported a significant increasing trend in chronic victimization for both genders.

Statistically significant increases were noticeable for occasional and chronic victimizations for one country only (French Belgium) for both genders from 2001–02 to 2009–10. Overall, decreases were visible in occasional and chronic victimization across both genders in Denmark, Italy and the Netherlands only from 2001–02 to 2009–10.

In both occasional and chronic victimizations, the largest change was reported by Greece. Greece reported a 24.1% decrease (down from 51.7 in 2005–06 to 27.6% in 2009–10) for occasional victimization, and a 14.4% decrease for chronic victimization (down from 22.9 in 2005–06 to 8.5% in 2009–10). While a number of other countries presented a similar trend of increasing between 2001–02 and 2005–06 followed by a decrease in 2009–10, these changes were not as dramatic as in Greece.

Discussion

Bullying victimization remains a common occurrence in most countries that took part in this study, with just under a third of children in the sample reporting occasional victimization and approximately one in eight children reporting chronic victimization. Encouragingly, for both genders, there is a slight but significant decrease in occasional and chronic victimizations between 2001–02 and 2009–10 in a third of participating countries.

Table 1 Trends in prevalence of being bullied once or more at school in the past couple of months by gender, country and survey year^a

Being bullied	Boys (%)				Girls (%)			
	Country	2001–02	2005–06	2009–10	P	2001–02	2005–06	2009–10
Austria	47.7	45.7	45.0	ns	41.2	36.0	35.9	0.005
Belgium (Flemish)	32.8	25.1	31.2	ns	27.7	22.4	28.2	ns
Belgium (French)	50.5	56.2	59.7	0.000	33.6	39.0	42.5	0.000
Canada	38.4	35.6	36.4	ns	37.0	34.7	37.9	ns
Croatia	28.4	21.2	18.2	0.000	20.8	18.8	15.9	0.000
Czech Republic	17.2	17.0	16.0	ns	14.9	15.5	15.1	ns
Denmark	31.3	24.3	19.9	0.000	32.1	24.9	20.0	0.000
England	38.1	30.3	27.0	0.000	34.8	26.8	28.1	0.000
Estonia	46.5	48.2	43.6	ns	42.4	42.7	38.3	ns
Finland	27.1	27.4	32.6	0.000	21.0	22.0	28.6	0.000
France	34.3	33.3	34.1	ns	36.0	35.1	33.9	ns
Germany	39.5	35.7	31.5	0.000	33.8	32.9	28.5	0.000
Greece	26.4	51.8	29.3	0.019	22.5	51.7	25.9	0.003
Greenland	40.5	49.1	39.6	ns	45.9	52.4	36.0	0.010
Hungary	22.7	24.2	29.2	0.000	23.8	26.1	25.1	0.011
Ireland	28.8	26.7	28.4	ns	23.6	25.2	26.2	ns
Italy	31.0	26.2	13.8	0.000	25.4	18.3	8.4	0.000
Latvia	52.3	50.3	47.8	ns	44.8	46.5	45.5	ns
Lithuania	65.0	56.4	55.2	0.000	63.6	56.2	52.8	0.000
Macedonia	30.6	30.6	26.0	0.003	25.0	21.0	16.1	0.000
Netherlands	32.2	28.3	26.8	0.001	27.3	25.3	22.6	0.002
Norway	35.0	29.5	27.6	0.000	29.7	23.1	25.3	0.002
Poland	33.2	31.2	31.7	ns	27.3	21.3	21.3	0.000
Portugal	55.6	46.2	43.8	0.000	44.0	37.5	31.9	0.000
Russia	40.4	35.5	37.6	0.039	35.1	34.3	36.3	ns
Scotland	27.8	26.6	23.8	0.022	30.1	26.3	23.3	0.003
Slovenia	21.8	27.2	21.8	ns	23.0	22.3	19.0	ns
Spain	27.5	16.0	18.0	0.000	24.7	11.4	10.8	0.000
Sweden	15.2	15.7	12.4	0.009	14.7	13.6	12.4	ns
Switzerland	42.3	41.5	39.2	0.023	38.7	34.3	33.4	0.000
Ukraine	50.0	49.4	43.2	0.000	48.1	50.4	45.3	ns
USA	35.6	29.9	28.4	0.000	32.6	29.1	27.4	0.000
Wales	28.6	30.1	29.7	ns	30.6	31.7	26.7	0.015

ns = non-significant.

a: Controlled age and social class.

Despite the decreasing trend of bullying victimization in around a third of the countries, many other countries do not present consistent downward trends but instead fluctuate. Flemish Belgium, Canada, Finland, Poland, Spain and Switzerland reported significant decreases in chronic victimization for boys and girls between 2001–02 and 2005–06 but then demonstrated significant increases between 2005–06 and 2009–10. Alternatively, a number of countries show increases from 2001–02 to 2005–06 followed by decreases between 2005–06 and 2009–10; with Greece demonstrating this trend most prominently.

In contrast to previous findings,¹⁰ in most countries where significant changes were reported in occasional or chronic victimization from 2005–06 to 2009–10, they were larger among boys than girls. Moreover, gender differences in temporal trends are prominent; a number of countries present significant trends in occasional or chronic victimization for only one of the genders. Speculatively, these may reflect on the cultural conceptualization of bullying, as well as social acceptability of gendered behaviours. For example, England reported a significant decreasing trend for both occasional and chronic victimizations among boys but not girls. Within England the term bullying is most strongly associated with severe physical aggression and fighting and least associated with social exclusion.¹³ This cultural conceptualization of bullying based on predominantly male behaviour may impact upon the bullying behaviours addressed in school.¹⁴

This study utilized a large cross-national dataset which allows for unique examinations of temporal trends in bullying victimization; however, there are some limitations to this study. Translational

issues are a limitation of cross-national data; the term bullying often cannot be readily translated into other languages and could be understood differently across cultures.¹⁴ Such cultural variations in the conceptualization of bullying may explain country differences in prevalence of bullying.¹³ The HBSC survey instruments however are subject to a rigorous translational process to minimize these potential discrepancies.⁹ In the past decade cyberbullying, bullying through electronic devices such as mobile phones and computers, has become recognized as another form of bullying. It must be noted that the measure used in the HBSC surveys did not explicitly refer to cyberbullying; consequently the prevalence rates may reflect only traditional forms of bullying and not cyberbullying.

In conclusion, this article has demonstrated decreasing trends in bullying victimization among boys and girls across a third of participating countries; with few countries reporting increasing trends in bullying victimization. While these results are positive, it is important to acknowledge that victimization is still a fairly common harmful experience for a number of school-aged children and that continued effort should be made to further reduce bullying. Moreover, substantial variations still exist across countries and the inconsistency of country trends raises important implications for policy development and evaluation. Firstly the inconsistency in direction emphasizes the importance continuity in national policy to maintain consistent trajectories; implementing policy until declines are reported is inadequate, a continued effort is necessary to maintain the decreasing trend. Secondly, the gender differences in significant trends suggest gender-specific programmes may be a useful tool in addressing the gender differences presented in this

Table 2 Trends in prevalence of being bullied at least two or three times at school in the past couple of months by gender, country and survey year^a

Being bullied	Boys (%)				Girls (%)			
	Country	2001–02	2005–06	2009–10	P	2001–02	2005–06	2009–10
Austria	19.5	19.6	21.6	0.048	13.5	12.1	13.4	ns
Belgium (Flemish)	13.8	9.4	12.0	ns	10.1	8.3	10.5	ns
Belgium (French)	19.8	22.1	27.8	0.000	11.5	11.9	16.5	0.000
Canada	16.4	15.2	16	ns	14.4	13.1	14.9	ns
Croatia	11.7	9.4	7.5	0.001	6.9	7.4	6.2	ns
Czech Republic	6.8	6.3	5.4	ns	5.5	4.8	5.1	ns
Denmark	11.4	8.3	6.6	0.000	11.1	7.8	6.1	0.000
England	14.4	10.8	9	0.000	11.6	8.7	9.9	ns
Estonia	21.7	23.9	20.5	ns	15.7	19.2	16.1	ns
Finland	10.4	9.1	11.5	ns	8	6.9	10.2	0.002
France	13.4	13.9	14.8	0.023	12.9	13.3	13.2	ns
Germany	15.2	14.9	10.6	0.000	11.1	12.9	9.8	ns
Greece	9.3	23	9.4	ns	6.7	22.9	7.7	ns
Greenland	22.1	23	18.1	ns	26.5	24.9	13.9	0.000
Hungary	5.7	6.3	8.7	0.000	6.4	6.7	6.4	ns
Ireland	10.2	10.0	10.9	ns	6.5	7.3	6.9	ns
Italy	12.1	10.1	4.8	0.000	8.5	6.6	2.9	0.000
Latvia	23.7	23.4	20.5	ns	16.2	19.3	18.1	0.008
Lithuania	36.4	28	28.5	0.000	32.3	26.5	23.4	0.000
Macedonia	11.8	12.0	10.6	ns	9.5	6.5	5.3	0.000
Netherlands	11.3	9.7	8.4	0.010	8.7	7.3	6.8	0.046
Norway	12	9.7	9.5	0.020	9.9	6.9	8.2	0.030
Poland	12.5	11.4	13.2	ns	8	7.3	7.8	ns
Portugal	24.3	16.5	16.8	0.000	13.4	12.6	11.1	ns
Russia	18.5	17.2	17.8	ns	16.8	15.7	17.3	ns
Scotland	8.4	9.3	9.8	0.016	9.1	9.5	8.5	ns
Slovenia	7.4	11.1	8.2	0.030	6.8	7.5	6.1	ns
Spain	10.1	5.6	7.5	0.012	7.5	3.6	4.3	0.000
Sweden	5.4	4.6	3.9	0.021	4.1	3.5	4	ns
Switzerland	16.2	13.7	14.9	ns	11.7	10.5	11.7	ns
Ukraine	17.2	19.4	16.2	ns	17.8	20.2	16.9	ns
USA	14.8	11.9	11.3	0.000	10.4	10.9	10.7	ns
Wales	9.3	11.1	9.5	ns	9.7	11.6	8.2	ns

ns, non-significant.

a: Controlled age group and SES.

article. Thirdly, those countries which report consistent downward trends in bullying victimization can guide and inform other countries in their bid to decrease bullying further.

Acknowledgements

HBSC is an international study carried out in collaboration with the WHO/EURO. The international coordinator was Candace Currie from the University of St. Andrews, and the databank manager was Prof. Oddrun Samdal, University of Bergen. A complete list of participating countries and researchers is available on the HBSC website (<http://www.hbsc.org>). The data collection for each HBSC survey is funded at the national level. We thank all the pupils, teachers and investigators who took part in the HBSC surveys.

Conflicts of interest: None declared.

Key points

- In the academic year 2009–10 a third of school children in Europe and North America reported they had been victims of bullying in the previous 2 months.
- There are large variations in bullying victimization across countries.
- Bullying victimization is declining in a third of countries involved in the analyses.

References

- 1 Rigby K. *Bullying in Schools and What to Do About It: Revised and Updated*. Victoria, Australia: ACER Press, 2007.
- 2 Olweus D. *Bullying at School: What We Know and What Can We Do*. Oxford, England: Blackwell Publishers, 1993.
- 3 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;15:128–32.
- 4 Nansel T, Ovepeck M, Pilla RS, et al. Bullying behaviors among US youth: prevalence and association with psychosocial adjustment. *JAMA* 2001;285:2094–100.
- 5 Klomek AB, Marrocco F, Kleinman M, et al. Bullying, depression, and suicidality in adolescents. *J Am Acad Child Adolesc Psychiatry* 2007;46:40–9.
- 6 Alikasifoglu M, Erginoz E, Ercan O, et al. Bullying behaviours and psychosocial health: results from a cross-sectional survey among high school students in Istanbul, Turkey. *Eur J Pediatr* 2007;166:1253–60.
- 7 Vieno A, Gini G, Santinello M. Different forms of bullying and their association to smoking and drinking behavior in Italian adolescents. *J School Health* 2011;81:393–9.
- 8 Craig W, Harel-Fisch Y, Fogel-Grinvald H, et al. A cross-national profile of bullying and victimization among adolescents in 40 countries. *Int J Public Health* 2009;54:216–24.
- 9 Currie C, Griebler R, Inchley J, et al, editors. *Health Behaviour in School-Aged Children (HBSC) Study Protocol: Background, Methodology and Mandatory Items for the 2009/10 Survey*. Edinburgh: CAHRU & Vienna: LBHPR, 2010.
- 10 Molcho M, Craig W, Due P, et al. Cross-national time trends in bullying behaviour 1994–2006: findings from Europe and North America. *Int J Public Health* 2009;54:225–34.
- 11 Olweus D. *The Revised Olweus Bully/Victim Questionnaire*. Bergen: University of Bergen, 1996.
- 12 Currie C, Molcho M, Boyce W, et al. Researching health inequalities in adolescents: the development of the Health Behaviour in School-Aged Children (HBSC) family affluence scale. *Soc Sci Med* 2008;66:1429–36.
- 13 Smorti A, Menesini E, Smith PK. Parents' definitions of children's bullying in a five-country comparison. *J Cross-Cult Psychol* 2003;34:417–32.
- 14 Craig W, Henderson K, Murphy J. Prospective teachers' attitudes toward bullying and victimization. *School Psychol Int* 2000;21:5–21.