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<th>A cross-national profile of bullying and victimisation among adolescents in 40 countries</th>
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<td>Molcho, Michal</td>
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A cross-national profile of bullying and victimization among adolescents in 40 countries

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Abstract

Objectives: (1) To compare the prevalence of bullying and victimization among boys and girls and by age in 40 countries. (2) In 6 countries, to compare rates of direct physical, direct verbal, and indirect bullying by gender, age, and country.

Methods: Cross-sectional self-report surveys including items on bullying and being bullied were obtained from nationally representative samples of 11, 13 and 15 year old school children in 40 countries, N = 202,056. Six countries (N = 29,127 students) included questions about specific types of bullying (e.g., direct physical, direct verbal, indirect).

Results: Exposure to bullying varied across countries, with estimates ranging from 8.6 % to 45.2 % among boys, and from 4.8 % to 35.8 % among girls. Adolescents in Baltic countries reported higher rates of bullying and victimization, whereas northern European countries reported the lowest prevalence. Boys reported higher rates of bullying in all countries. Rates of victimization were higher for girls in 29 of 40 countries. Rates of victimization decreased by age in 30 of 40 (boys) and 25 of 39 (girls) countries.

Conclusion: There are lessons to be learned from the current research conducted in countries where the prevalence is low that could be adapted for use in countries with higher prevalence.

Keywords: Bullying – Victimization – Prevalence rates – Country comparison.

Introduction

Countries throughout the world have identified bullying as a leading adolescent health concern. Studies from individual countries such as Canada, the United States, Lithuania, Israel, Poland and Greenland have described the prevalence of bullying and victimization. Several studies have examined correlates of bullying, including its association with mental and physical health problems, academic problems, and delinquency and crime. National and more local studies have also examined the epidemiology of bullying and profiled its psychosocial correlates, yet few cross-national studies...
have been conducted. Existing studies have either involved a
limited number of countries, or have not considered specific
types of bullying and developmental (or age) changes.13
The Health Behavior in School-Aged Children (HBSC) sur-
vey 2005/06 provided an opportunity to study bullying in a
large multinational sample of school-aged children. In this
study, there are over 200,000 school children from 40 differ-
ent European, North-American countries and Israel that were
questioned about bullying and being bullied. This goal of this
paper is to compare contemporary estimates of the prevalence
of bullying and victimization among adolescents across coun-
tries, using standard measures. In a subset of countries we
examine these changes for specific subtypes of bullying.
Bullying is defined as the use of power and aggression to
cause distress or control another.1–3 The use of power and ag-
gression may be carried out through direct and indirect forms
of aggression. Direct bullying can include physical aggres-
sion (hitting, kicking) and verbal aggression (insults, racial
or sexual harassment, threats). Indirect bullying is the ma-
nipulation of social relationships to hurt (gossiping, spread-
ing rumors) or exclude the individual being victimized. With
evolving developmental capacities the nature of bullying and
victimization may change with age. Direct aggression of a
physical or verbal nature is common in young children.4,15
As children age, physical aggression tends to decrease and
verbal aggression increases.16 As children develop in their
social understanding, they become more capable of indirect
forms of aggression. To date no study has examined a multi-
country comparison of age related changes in forms of bully-
ing. We hypothesize that physical bullying and victimization
will decrease with age and verbal and indirect bullying will
increase. There are also gender-specific differences in the de-
velopmental progression of aggressive strategies, with girls
implementing indirect aggression more than boys.16 Since the
forms of aggression vary with age and differ by gender, we
expect that the type of victimization that children experience
would reflect a similar developmental pattern.
If these age- or gender related patterns of bullying are consist-
ent in our cross-country analyses, we can begin to speculate
on the associated universal developmental processes that are
the mechanisms of these differences. The use of “age group”
in this study will serve as a proxy for investigating the impor-
tance of these varying psychosocial and developmental con-
texts in influencing bullying typology among adolescents. If
the age and gender patterns are not consistent, we will need to
consider the cultural contributions to these variations.
This paper aims to compare estimates of the prevalence of
bullying and associated victimization, and how these patterns
change with age in adolescence and across countries using
standard measures and methods. In addition, the relevance
of the developmental context was investigated and the occur-
rence of direct physical, direct verbal, and indirect types of
bullying is described in a subsample of 6 countries. Finally,
age and gender differences in bullying across countries will
be examined. We expect that the age-related patterns will be
similar across countries, although the prevalence will likely
vary due to larger cultural factors.

Methods

Study population and procedures

School-based anonymous surveys were conducted during the
2005/06 school year according to a common HBSC research
protocol.17 Each participating country surveyed a representa-
tive sample of school children ages 11, 13 and 15 (approxi-
mately grades 6th, 8th and 10th) using identical sampling meth-
ods.18 Sampling unit was a classroom within schools selected
by a weighted probability technique to ensure that students
were equally likely to be included. All students belonging to a
sampled classroom (and present on survey day) were includ-
ed in the sample. Some countries stratified by local relevant
demographic characteristics such as ethnicity, religion, lan-
guage of instruction, etc. To address clustering effects within
classroom, the sample requirements were for a minimum of
1,500 respondents for each of the three age groups, totaling
approximately n = 4,500 per country and resulting in a to-
tal of N = 202,056 sampled children across all 40 countries.
This inflated sample size made it possible to obtain sufficient
confidence intervals of ±3% for representative estimates with
sample design effects no more than 1.4 times greater than
would be obtained from a simple random sample.

Study measures

Two mandatory questions on bullying and victimization were
included in the survey and were used by all 40 participating
countries (N = 202,056). Six countries, Italy, Luxembourg,
Macedonia, Israel, Canada, and the United States (N = 29,127
students), included optional questions about specific types of
bullying, enabling to assess the typology of bullying across
those countries.

Children who are bullied, victimized, and who have dual
status (bully-victims)

In all 40 countries, participants were asked to report how many
times they had been bullied at school in the past 2 months and
how often they had taken part in bullying another student(s) at
school in the past 2 months.18 Possible responses were: never,
one or twice, 2 or 3 times a month, about once a week, or
several times a week. Those who reported taking part in bullying ≥2 or 3 times a month and did not report being victimized were classified as “children who bully others”. Those who reported being bullied ≥2 or 3 times a month and did not report bullying others were classified as children who were “victimized by bullying”. Those who reported bullying ≥2 or 3 times a month and being bullied ≥2 or 3 times a month were classified as having dual status, “bully-victims”. These were mutually exclusive categories because we were interested in understanding the unique patterns associated with each role. Specific Types of Bullying Participants in the six countries using optional bullying items reported the frequency of different types of bullying and victimization. Specific types of reported bullying were: 1) physical: “have you hit, kicked, pushed, shoved around, or locked another student indoors?”; 2) verbal: “have you called another student(s) mean names, made fun of, or teased him or her in a hurtful way?”; 3) social: “have you kept another student out of things on purpose, excluded him or her from a group of friends, or completely ignored him or her?”; 4) sexual harassment: “have you made sexual jokes, comments, or gestures to another student(s)?”; 5) racial: “have you made fun of another student because of his or her race or color?”; 6) religious: “have you made fun of another student because of his or her religion?”. Questions about victimization asked about the same forms of bullying. Similar cutoff that were implemented with the general questions were used. Consistent with existing classification systems, different types of bullying and victimization were further sub-divided into 6 general categories: direct physical bullying (physical type); direct verbal bullying (any of verbal, sexual harassment, racial, or religious type); indirect bullying (social type), direct physical victimization, direct verbal victimization, and indirect victimization. Due to the overlap of these specific types of behaviours we did not look at the bully-victim role.

Statistical analysis
Data analyses were conducted with SPSS 14 (SPSS Inc, Chicago, IL). A conservative design effect of 1.4 was used in the inflation of SE estimates to account for the cluster-based sampling. The prevalence of adolescents that reported bullying others, being victimized, or dual status was estimated for each age group (11, 13, and 15 years) and by sex within each of the 40 countries. For each of the six age/sex strata, medians and the range of reported prevalence values were estimated. Chi-square tests for linear trend were used to identify statistically significant (p <0.001) differences in age-specific prevalence estimates by sex within each country. Fisher’s exact test was used to test for significant differences in reported prevalence by sex. Results were summarized into overall cross-national trends. Specific types of bullying and victimization were described for 6 countries.

Results
Adolescents (N = 202,056) in 40 countries participated in the 2005/06 HBSC survey. Of these, 10.7% (N = 21,192) reported bullying others, 12.6% (N = 24,919) reported being bullied and 3.6% (N = 7,138) reported being both a bully and a victim of bullying.

Geographic patterns in bullying and associated victimization (40 countries)
Involvement of boys in all 3 categories of bullying combined (i.e., bullying others, being bullied and being both a bully and a victim), ranged from 8.6% in Sweden to 45.2% in Lithuania (Fig. 1). This represents a 5 – fold difference across countries with an overall median of 23.4%. Among girls, the prevalence of involvement in bullying ranged from 4.8% in Sweden to 35.8% in Lithuania (Fig. 2), a 7 – fold difference across countries with an overall median of 15.8%. Seven countries were notable in that boys and girls both reported high prevalence rates of victimization from bullying relative to other countries (both genders were in “top 10” of 40 countries by rank: Lithuania, Latvia, Greece, Greenland, Romania, Turkey, and Ukraine). For bullying others, 9 countries were among the “top 10” countries for both genders (Latvia, Estonia, Greece, Lithuania, Romania, Greenland, Ukraine, Russia, and Austria). With respect to the lowest reported rates, 8 countries (Hungary, Norway, Ireland, Finland, Sweden, Iceland, Czech Republic, and Wales) were among the “bottom 10” countries for both genders. In general, countries in north-west Europe (primarily Scandinavian countries) reported lower prevalence of bullying and victimization compared to eastern European countries.

Trends in bullying and associated victimization by age and gender (40 countries)
Consistent age-related patterns were observed among boys (Tab. 1), with a significant increase in the prevalence of bullying by age in 28 of 40 countries, and a significant decline in reported prevalence of boys who were victimized by bullying in 30 of 40 countries. Age-related patterns were less consistent for girls, although in 25 of 40 countries victimization from bullying decreased with increasing age and the prevalence of girls involved in bullying increased in 19 countries. In 20 countries no trend was observed. There were clear differences observed in prevalence reported
groups in most countries ($p < 0.001$). The same trend was only lying and being victimized more often in the two older age majority of countries (Tab. 1). Girls reported being victimized tries; these differences were observed in each age group in a for boys vs. girls. For bullying, reported rates were statistically higher ($p < 0.001$) among boys vs. girls in 40/40 countries; these differences were observed in each age group in a majority of countries (Tab. 1). Girls reported being victimized more than boys; $p < 0.001$ in most countries but this trend was inconsistent across age. Boys reported being both bullying and being victimized more often in the two older age groups in most countries ($p < 0.001$). The same trend was only observed for girls in the oldest age group.

Specific types of bullying and associated victimization (6 countries)
For these analyses, we utilized participants who first reported on general bullying or victimization and then reported on the type of bullying or victimization. The majority of adolescents in each country did not engage in each of the specific types of bullying (Tab. 2). Boys reported higher rates than girls of each of direct physical, direct verbal, and indirect types of bullying, and this pattern was apparent in each age group in

Figure 1. Cross-national comparison of general bullying among boys aged 11, 13 and 15 years old.

Figure 2. Cross-national comparison of general bullying among girls aged 11, 13 and 15 years old.
A cross-national profile of bullying and victimization among adolescents in 40 countries

Table 1. Age and gender trends in the prevalence of bullying within 40 countries.

<table>
<thead>
<tr>
<th>Behaviour</th>
<th>Number of Countries</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Bullying</td>
</tr>
<tr>
<td><strong>BOYS</strong></td>
<td></td>
</tr>
<tr>
<td>Trend observed with increasing age</td>
<td></td>
</tr>
<tr>
<td>Prevalence increased *</td>
<td>28</td>
</tr>
<tr>
<td>Prevalence decreased *</td>
<td>1</td>
</tr>
<tr>
<td>No trend observed</td>
<td>11</td>
</tr>
<tr>
<td><strong>GIRLS</strong></td>
<td></td>
</tr>
<tr>
<td>Trend observed with increasing age</td>
<td></td>
</tr>
<tr>
<td>Prevalence increased *</td>
<td>19</td>
</tr>
<tr>
<td>Prevalence decreased *</td>
<td>1</td>
</tr>
<tr>
<td>No trend observed</td>
<td>20</td>
</tr>
<tr>
<td><strong>BOYS VS. GIRLS</strong></td>
<td></td>
</tr>
<tr>
<td>Prevalence in boys greater than in girls</td>
<td></td>
</tr>
<tr>
<td>All ages</td>
<td>40</td>
</tr>
<tr>
<td>Age 11 years</td>
<td>30</td>
</tr>
<tr>
<td>Age 13 years</td>
<td>35</td>
</tr>
<tr>
<td>Age 15 years</td>
<td>36</td>
</tr>
</tbody>
</table>

* Chi-square for linear trend in proportions (p < 0.001)
** Fisher’s exact for difference (p < 0.001)

Table 2. Median prevalence of bullying by type (direct physical, direct verbal, indirect), gender and age group (6 countries*).

<table>
<thead>
<tr>
<th>Type of bullying</th>
<th>BOYS 11 Years**</th>
<th>BOYS 13 Years</th>
<th>BOYS 15 Years</th>
<th>GIRLS 11 Years**</th>
<th>GIRLS 13 Years</th>
<th>GIRLS 15 Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct Physical</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None reported</td>
<td>87 (84-93)</td>
<td>89 (84-92)</td>
<td>91 (90-93)</td>
<td>95 (92-97)</td>
<td>96 (92-98)</td>
<td>97 (95-99)</td>
</tr>
<tr>
<td>Bully only</td>
<td>2 (1-3)</td>
<td>3 (2-5)</td>
<td>4 (3-5)</td>
<td>1 (0-2)</td>
<td>1 (0-2)</td>
<td>1 (0-3)</td>
</tr>
<tr>
<td>Victim only</td>
<td>6 (3-11)</td>
<td>4 (3-6)</td>
<td>2 (1-3)</td>
<td>2 (1-5)</td>
<td>2 (1-3)</td>
<td>1 (0-1)</td>
</tr>
<tr>
<td>Bully–victim</td>
<td>5 (1-9)</td>
<td>4 (2-7)</td>
<td>3 (2-4)</td>
<td>2 (1-4)</td>
<td>2 (0-3)</td>
<td>1 (0-2)</td>
</tr>
<tr>
<td>Direct Verbal</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None reported</td>
<td>71 (65-82)</td>
<td>70 (66-78)</td>
<td>75 (73-77)</td>
<td>80 (69-83)</td>
<td>78 (72-83)</td>
<td>84 (75-91)</td>
</tr>
<tr>
<td>Bully only</td>
<td>4 (3-6)</td>
<td>8 (4-11)</td>
<td>10 (7-15)</td>
<td>2 (1-4)</td>
<td>4 (2-6)</td>
<td>4 (2-5)</td>
</tr>
<tr>
<td>Victim only</td>
<td>15 (11-23)</td>
<td>13 (9-16)</td>
<td>8 (7-9)</td>
<td>13 (10-23)</td>
<td>13 (10-16)</td>
<td>8 (7-15)</td>
</tr>
<tr>
<td>Bully–victim</td>
<td>9 (6-16)</td>
<td>9 (5-13)</td>
<td>7 (5-9)</td>
<td>5 (3-8)</td>
<td>5 (3-6)</td>
<td>4 (2-5)</td>
</tr>
<tr>
<td>Indirect</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None reported</td>
<td>80 (70-85)</td>
<td>83 (76-87)</td>
<td>87 (83-89)</td>
<td>84 (70-91)</td>
<td>84 (76-92)</td>
<td>89 (79-92)</td>
</tr>
<tr>
<td>Bully only</td>
<td>2 (1-3)</td>
<td>3 (1-6)</td>
<td>5 (3-8)</td>
<td>1 (1-3)</td>
<td>2 (1-3)</td>
<td>2 (0-4)</td>
</tr>
<tr>
<td>Victim only</td>
<td>12 (7-21)</td>
<td>8 (5-11)</td>
<td>5 (3-7)</td>
<td>11 (6-23)</td>
<td>10 (5-14)</td>
<td>6 (2-13)</td>
</tr>
<tr>
<td>Bully–victim</td>
<td>6 (2-12)</td>
<td>6 (3-10)</td>
<td>4 (2-5)</td>
<td>4 (2-7)</td>
<td>3 (1-7)</td>
<td>3 (2-4)</td>
</tr>
</tbody>
</table>

* countries: Canada, Israel, Italy, Luxembourg, Macedonia, U.S.A.
**In Italy students aged 11, did not answer the questions.

most countries. For boys who bully, there was an increase in reported prevalence in Canada and Luxembourg with age, but no trend in Israel, Italy, and the United States. In Macedonia, there was a decrease with age in direct physical and indirect bullying for boys. For girls, with the exception of Macedonia, there were no age trends in direct bullying. For verbal bullying in girls, there was a decrease in Israel, but no age trend in the other five countries. For indirect bullying in girls, there
Table 3. Prevalence of bullying by type (direct physical, direct verbal, indirect), country, age and gender.

<table>
<thead>
<tr>
<th>COUNTRY</th>
<th>BOYS % (SE) *</th>
<th></th>
<th>GIRLS % (SE) *</th>
<th></th>
</tr>
</thead>
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<tr>
<td></td>
<td>11 Years</td>
<td>13 Years</td>
<td>15 Years</td>
<td>p-trend</td>
</tr>
<tr>
<td>CANADA</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct bullying-physical</td>
<td>5.6 (1.3)</td>
<td>6.1 (1.1)</td>
<td>6.7 (1.1)</td>
<td>0.34</td>
</tr>
<tr>
<td>Direct bullying-verbal</td>
<td>8.7 (1.6)</td>
<td>13.4 (1.5)</td>
<td>14.0 (1.5)</td>
<td>0.003</td>
</tr>
<tr>
<td>Indirect bullying</td>
<td>4.4 (1.1)</td>
<td>5.9 (1.1)</td>
<td>6.4 (1.0)</td>
<td>0.08</td>
</tr>
<tr>
<td>ISRAEL</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct bullying-physical</td>
<td>10.1 (1.7)</td>
<td>10.0 (1.6)</td>
<td>8.2 (1.5)</td>
<td>0.26</td>
</tr>
<tr>
<td>Direct bullying-verbal</td>
<td>17.7 (2.1)</td>
<td>21.4 (2.2)</td>
<td>18.0 (2.0)</td>
<td>0.94</td>
</tr>
<tr>
<td>Indirect bullying</td>
<td>8.3 (1.5)</td>
<td>9.6 (1.6)</td>
<td>7.3 (1.4)</td>
<td>0.45</td>
</tr>
<tr>
<td>ITALY</td>
<td></td>
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<tr>
<td>Direct bullying-physical</td>
<td>6.8 (1.4)</td>
<td>6.8 (1.4)</td>
<td>0.99</td>
<td></td>
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<tr>
<td>Direct bullying-verbal</td>
<td>19.2 (2.2)</td>
<td>17.4 (2.1)</td>
<td>0.40</td>
<td></td>
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<tr>
<td>Indirect bullying</td>
<td>10.0 (1.7)</td>
<td>7.8 (1.5)</td>
<td>0.18</td>
<td></td>
</tr>
<tr>
<td>LUXEMBOURG</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct bullying-physical</td>
<td>2.7 (0.9)</td>
<td>4.3 (1.0)</td>
<td>6.8 (1.3)</td>
<td>0.001</td>
</tr>
<tr>
<td>Direct bullying-verbal</td>
<td>6.1 (1.4)</td>
<td>13.0 (1.7)</td>
<td>19.4 (2.0)</td>
<td>0.001</td>
</tr>
<tr>
<td>Indirect bullying</td>
<td>3.7 (1.1)</td>
<td>6.9 (1.3)</td>
<td>9.9 (1.5)</td>
<td>0.001</td>
</tr>
<tr>
<td>MACEDONIA</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct bullying-physical</td>
<td>9.2 (1.4)</td>
<td>7.4 (1.3)</td>
<td>5.9 (1.1)</td>
<td>0.01</td>
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<tr>
<td>Direct bullying-verbal</td>
<td>17.8 (1.9)</td>
<td>16.0 (1.8)</td>
<td>14.9 (1.6)</td>
<td>0.10</td>
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<tr>
<td>Indirect bullying</td>
<td>13.4 (1.7)</td>
<td>9.8 (1.4)</td>
<td>7.4 (1.2)</td>
<td>0.001</td>
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<td>U.S.A.</td>
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<tr>
<td>Direct bullying-physical</td>
<td>4.8 (1.9)</td>
<td>9.7 (1.7)</td>
<td>7.2 (1.4)</td>
<td>0.67</td>
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<tr>
<td>Direct bullying-verbal</td>
<td>11.6 (2.9)</td>
<td>17.9 (2.1)</td>
<td>18.8 (2.2)</td>
<td>0.06</td>
</tr>
<tr>
<td>Indirect bullying</td>
<td>8.8 (2.5)</td>
<td>12.2 (1.8)</td>
<td>10.5 (1.7)</td>
<td>0.78</td>
</tr>
</tbody>
</table>

* SE inflated by 1.4 to account for design effect

was a decrease in Macedonia, but no age trend in the other five countries. In the majority of countries, there were limited or no changes by age group in the prevalence of the different forms of bullying among both genders. Similar country-specific analyses of being bullied are described in Tab. 3. The vast majority of children in most countries were not victimized. As children aged from 11 to 15 years, the prevalence of being victimized by each of the 3 types typically declined among both boys and girls. This finding was true for all countries for all types of bullying. Patterns of the types of victimization were highly consistent gender, with no observed changes by age group.

**Discussion**

Bullying and victimization is a universal public health problem and impacts large numbers of adolescents. In our 40-country analysis, 26% participating adolescents (n = 53,249) reported involvement in bullying. Bullying involvement transcends cultural and geographic boundaries. Age differences found in bullying and victimization may be a distal proxy for investigating the impact of varying social contexts (school, peer) and developmental transitions (i.e., social, psychological, and biological). Given the significant psychological, physical, academic, and social implications of these behaviours, there is a clear need to address this universal problem and increase understanding of the more proximal developmental mechanisms that may promote or inhibit bullying including cultural influences, school climate, peer processes, adult attitudes and behaviours, and family interactions. Adolescents in different countries reported strikingly different rates of involvement in bullying and victimization, with 5-fold differences reported between countries by boys, and 7-fold difference reported between countries for girls. These variations may reflect important cultural and social differences or differences in the implementation of national policy and programs. For example, in countries where the prevalence was relatively low (mainly Scandinavian) there are national programs in place to address bullying whereas in the countries...
with the highest prevalence (eastern European) there are no country-wide national campaigns. The disparity in prevalence rates of bullying involvement may in fact reflect the success of these national initiatives that have been ongoing for many years (e.g., Olweus, 1993). A more systemic review of bullying prevention initiative by country is required. This variation across countries may also reflect cultural differences in the definitions of bullying. Smith et al. reported that due to cultural variations in the conceptualization and understanding of bullying, pictures are the only reliable method to collect cross-national comparable data. Thus, the interpretation of our findings on cross-national differences should be interpreted cautiously as the observed large difference in prevalence might be due to cross-cultural differences in the understanding or it may be methodological in that the scale assessing bullying did not utilize pictures. However, it is less likely that the association between bullying and age or gender is largely affected by such cross-cultural differential functioning in the indicators.

Some observed trends suggested universal patterns of involvement in bullying by gender and age, yet less than hypothesized. Bullying rates across all ages were higher in boys than in girls, consistent with previous studies, suggesting a possible reflection of bullying as a dominance strategy in boys or potentially boys are more willing to report their bullying behaviours. The same pattern was not true for adolescents victimized by bullying. Girls, in the majority of countries, were more likely to report higher levels of victimization than boys in girls, consistent with previous studies, suggesting a possible reflection of bullying as a dominance strategy in boys or potentially boys are more willing to report their bullying behaviours. The same pattern was not true for adolescents victimized by bullying. Girls, in the majority of countries, were more likely to report higher levels of victimization than boys and this pattern was relatively similar for each age group.

For both boys and girls, the prevalence of victimization from bullying decreased in half the countries with increasing age. For both boys and girls, the prevalence of victimization from bullying decreased in half the countries with increasing age. However, in the other half of the counties, no such trend was observed. Indirect victimization by bullying, pictures are the only reliable method to collect cross-national variations in the conceptualization and understanding of bullying. Smith et al. reported that due to cultural differences in the definitions of bullying, pictures are the only reliable method to collect cross-national comparable data. Thus, the interpretation of our findings on cross-national differences should be interpreted cautiously as the observed large difference in prevalence might be due to cross-cultural differences in the understanding or it may be methodological in that the scale assessing bullying did not utilize pictures. However, it is less likely that the association between bullying and age or gender is largely affected by such cross-cultural differential functioning in the indicators.

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Boys were more likely than girls to be involved in both bullying others and being bullied. According to the “gateway theory”\textsuperscript{21}, children develop risk behaviours in stages from minor to more severe involvements. This model might apply to the development of bullying behaviour. Children who are victimized by bullying might get involved in bullying others, which places them at risk to increase their involvement so that bullying becomes part of their social lifestyle (e.g., more than twice a month). A chronic involvement in both bullying and being bullied might be viewed as a step further in the gateway progression of risk, and place the bully-victim in even a higher risk that might have long term psychosocial and developmental consequences. According to our cross-sectional data the prevalence of bully-victims remained stable across age in 25 of 40 countries (boys) respectively in 32 out of 40 countries (girls). Longitudinal studies need to address this hypothesis. The sub-analyses on type of bullying with the six countries may clarify the gender and age-related patterns. Stereotypical patterns of bullying suggest that boys are more likely to use verbal and physical aggression while girls bully more often with indirect and verbal aggression\textsuperscript{15}. Similarly, research suggests that girls increase in their indirect bullying with age\textsuperscript{15}. The observed patterns of bullying did not reflect these stereotypes. Boys reported engaging in more of all forms of bullying than girls and this finding was relatively consistent across age and country. The reported prevalence of indirect bullying was relatively low for both genders. There was consistency with the literature on physical bullying which was much less prevalent than other forms of bullying. There were limited age-related differences in the form of bullying. The lack of developmental trends suggest that youth who bully are more likely to be generalist (e.g., they do not specialize on one form of bullying over another) and they do not change this pattern with age.

The prevalence of victimization in the 6 country analyses was consistent for both genders: Victimization generally declined with age for all types. The reduction in victimization by age could be attributable to age related changes in youth adapting socially as they develop or reflect equalization in physical sizes and consequently, increased effectiveness at inhibiting bullying or reflect the differences in circumstances of elementary, middle and high school in their respective social climate and academic demands. Adolescents who bully may be targeting a fewer number of students with increasing age or targeting younger children. It would be important to identify who is bullying who to further understanding of the bully-victim relationship. Those youth who continue to be victimized at older ages are likely to be very vulnerable to long-term problems. These hypotheses require national and longitudinal study. Finally, for both boys and girls, in the majority of countries, there were no clear age-related differences in the prevalence for those youth with dual status.

The strengths of this research include standard survey methodology employed and the comparison of prevalence across 40 countries. Limitations of this analysis warrant comment. They include our use of self-reported data and the cross-sectional nature of the survey. The HBSC questionnaire items have been subjected to extensive piloting and validation efforts, yet the possibility of biased reporting motivated by a desire to provide socially desirable responses must be recognized. The cross-sectional design limits our ability to infer causal relationships and our analyses must be viewed as exploratory in the absence of longitudinal data. Because these findings are based upon classroom samples, they will not be representative of adolescents in out of school settings and it is these adolescents who may be at the highest risk for involvement in bullying.

**Implications**

Bullying is a global social health problem and requires intervention at a population level. An understanding of the problem begins with prevalence estimates and national and cross-national comparisons, such as provided in this paper. More knowledge about the etiology of bullying and the psychosocial and behavioural determinants, and the role of contextual factors is needed, including national, prospective, and cross-national studies of etiology. There is a growing need for more intensive international collaboration in both research and the development and evaluation of prevention strategies so that we can be more effective in reducing this public health problem. There may be valuable lessons to be learned from current research conducted in countries where the reported prevalence is low that could be adapted for use in countries with higher prevalence. Health promotion and prevention strategies need to address bullying problems to make the world safer for all adolescents.

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References


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