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# Bullying in school-aged children in Iceland: A cross-sectional study

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## Abstract

**Purpose:** We describe the frequency and variations in bullying among a representative national sample of school-age children and examine whether sociodemographic characteristics are associated with bullying.

**Design and Methods:** This study is based on a cross-sectional school-based survey—the Icelandic contribution to the international research network Health Behaviour in School-aged Children (HBSC). The study population included all students in Iceland in grades 6, 8 and 10 (mean ages: 11, 13 and 15 years, respectively) (participation rate: 84%; n=11,018). The students completed an anonymous standardized questionnaire administered in the classroom.

**Results:** The self-reported frequency of being victimized by bullying at least 2-3 times every month was 5.5%. A younger age, speaking a foreign language at home, not living with one's parents, and living in a rural area, were all associated with higher frequencies of being bullied.

**Conclusions:** Despite efforts to reduce bullying in school, experiences of being victimized through bullying are still too common among Icelandic school-age children. Stakeholders and school health administrators should consider sociodemographic antecedents when planning interventions to reduce bullying at school.

**Keywords:** Bullying; school-aged children; cross-sectional study

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## **Introduction**

As children enter late childhood and adolescence, peer relationships become increasingly important. Such relationships can have both positive and negative effects. Over the past few decades, bullying among students has emerged as a vitally important concern in schools (Shackleton, 2016). Bullying has been identified as a serious peer relationship problem with psychosocial, academic, emotional and mental health implications for both the bullies and their victims (Nansel et al., 2004; Olweus & Limber, 2010; Rettew & Pawlowski, 2016). The social determinants of health are, according to the World Health Organization (WHO) (2012), the conditions in which people are born, grow, live, work and age. Bullying has broad health implications, and it is important to investigate its sociodemographic antecedents in order to prevent risk factors and promote health and well-being in school-age children.

## **Background**

Bullying has been defined as unwanted aggressive behavior that involves a real or perceived power imbalance (Olweus & Limber, 2010). Bullying includes physical, verbal, relational and cyber aggression. According to the international research network Health Behaviour in School-aged Children (HBSC), 11% of children aged 11–15 have claimed to be bullied at least two or three times per month within the last couple of months (Inchley et al., 2016). However, studies of bullying have also indicated decreasing trends (Chester et al., 2015). A significant proportion of children and adolescents have been victims of cyberbullying. Females and sexual minorities are seemingly at higher risk, and perpetrators are more likely to be male (Aboujaoude et al., 2016). Given the nature of cyberspace, there seems to be an easier path towards the bully/victim phenomenon (victims who become bullies or vice versa) than in the case of traditional bullying (Aboujaoude et al., 2016).

Sustained bullying often has a persistent adverse impact on children's socioemotional functioning (Bradshaw, 2015). Both physical and cyberbullying are associated with substance use, violent behavior, unsafe sexual behavior and suicidal behavior (Aboujaoude et al., 2016; Litwiller et al., 2013). Bullying is also associated with self-reported catastrophic thoughts and feelings about pain (Sansone et al., 2014), chronic pain (Voerman et al., 2015), migraines and headaches (Due et al., 2005; Gini et al., 2014; Waldie et al., 2014) and backache (Politis et al., 2014). Both victims and perpetrators have an increased risk of tobacco and illegal drug use and lower job prospects than non-involved individuals—even 12 years after the bullying experience (Sigurdson et al., 2014). Some psychosocial, but not physical, health symptoms precede bullying (Fekkes et al., 2006). Children with depressive symptoms and/or anxiety have a significantly higher chance of being victimized. Being overweight has also been shown to be associated with a greater risk of being bullied (Brixval et al., 2011; Feeg et al., 2014; Fekkes et al., 2006).

Teachers and school health staff can play an important role in preventing and counteracting school bullying. Teacher support and positive classroom climate are inversely correlated with the frequency of bullying (Vervoort et al., 2014). Furthermore, competent teacher support can serve as a buffer against the harmful effects of bullying, as can interventions involving multiple disciplines (Vreeman & Carroll, 2007). In order for preventive efforts to be effective, it is important to consider the extent and manifestations of bullying as well as its sociodemographic antecedents.

## **Purpose**

The aim of this investigation was to describe the frequency and variations of bullying among a representative national sample of school-age children. A secondary aim was to examine

whether sociodemographic characteristics, including age, gender, living in rural versus urban area, ethnicity, family affluence, and household structure, were associated with bullying.

## **Methods**

### *Study Design and Population*

Descriptive and analytic statistics (chi-square and logistic regression analysis) were performed (Norman & Streiner, 2008). This study uses an Icelandic dataset from the WHO international research network HBSC (Currie et al., 2014). The HBSC research network is a large-scale, cross-national study of 11-, 13- and 15-year-olds carried out over four-year intervals in 43 countries in Europe and North America, focusing on health behaviors and their determinants and consequences (Inchley et al., 2016).

The study population included all students in Iceland in grades 6, 8 and 10 attending school on the day of administration of a standardized anonymous questionnaire. A total of 11,018 students from 161 schools participated in the study, yielding an 84% response rate. The mean age in each grade was 11, 13 and 15 years, respectively. Some students (n=628) chose not to answer the questions on bullying, and therefore the responding sample for this study included 10,390 students. Males constituted 50% of the respondents; 32.1% were 6th graders (11-year-olds), 34.9% were 8th graders (13-year-olds) and 33.0% were 10th graders (15-year-olds). The survey was conducted between November 2013 and January 2014. Teachers distributed the questionnaire, and one school lesson (45 minutes) was dedicated to completing the survey.

### *Measures*

The HBSC survey consists of one standard mandatory questionnaire. In addition, individual countries can use optional sets of items that examine a topic in more depth (Inchely et al., 2016). Iceland added extra questions regarding bullying in the 2013–2014 survey.

### Sociodemographic variables

The study focused on the following sociodemographic variables: gender (boy/girl), age (birth year and month), family structure (living with both parents, living with parent and step-parent, living with a single parent, or another arrangement), country of birth, and language spoken at home (Currie et al., 2014). Schools in metropolitan areas were coded as “urban,” and other schools were coded as “rural.” Family socioeconomic status was based on the Family Affluence Scale (FAS) (Hartley et al., 2015; Torsheim et al., 2015), a six-item assessment of material assets or activities. The FAS uses the following questions: Does your family own a car, van or truck? Do you have your own bedroom? How many times did you and your family travel abroad for a holiday/vacation last year? How many computers does your family own? Does your family have a dishwasher at home? How many bathrooms (rooms with a bath/shower or both) are in your home? The responses were scored and summed to form a FAS summary score and estimate relative socioeconomic position by comparing an individual’s FAS score with all of the other FAS scores in the study. The relative affluence score was then used to identify groups of young people in the lowest 20% (low affluence), middle 60% (medium affluence) and highest 20% (high affluence) groups of affluence (Inchley et al., 2016).

### Questions regarding bullying

The Icelandic version of the survey included 12 questions regarding bullying (Currie et al., 2014). The students were asked how often they had been bullied at school over the past few months. The question was preceded by the following definition of bullying: “We say a student

is being bullied when another student, or a group of students, say or do nasty and unpleasant things to him or her. It is also bullying when a student is teased repeatedly in a way he or she does not like or when he or she is deliberately left out of things. However, it is not bullying when two students of around the same strength or power argue or fight. It is also not bullying when a student is teased in a friendly and playful way.” The response options ranged from zero to several times a week. The students were furthermore asked how often they had been bullied by someone sending mean instant messages, wall-postings, emails or text messages, or creating a website that made fun of them.

Another question focused on whether someone had taken unflattering or inappropriate pictures of the respondent without his or her permission and posted those pictures online. The respondents were also asked about different examples of bullying, including if they had been lied to, left out, called names, beaten, or bullied because of body growth, foreign nationality, disability or illness, or religion. Response options included “not at all in the past couple of months,” “once or twice,” “2–3 times during the last month,” “about once a week,” or “several times a week.” The Likert-type scale questions regarding the frequency of bullying were collapsed to a binary variable (0=not at all in the past couple of months, once or twice, and 1=2–3 times during the last month, about once a week, or several times a week).

### *Statistical analysis*

Descriptive statistics with frequencies, percentages, means and standard deviations were used to describe the various manifestations of bullying. Associations between bullying and sociodemographic variables were analyzed using chi-square and multiple logistic regression (enter) analysis (Norman & Streiner, 2008). The level of significance was set at 5%. Statistical analysis was performed using SPSS version 21 (IBM, Armonk, NY).

### *Ethics*

The survey complied with regulations and requirements concerning human subject research as laid out by the Data Protection Authority in Iceland (Personuvernd, 2013). This study was approved by school authorities and principals at the participating schools. The students were informed that their participation was voluntary. They were also informed that if they agreed to participate, they could skip questions that they did not wish to answer. Parents were informed about the content and purpose of the survey via school management in advance, and parents could withdraw their child from the study if they wished.

## **Results**

### *Frequencies and variations of bullying*

Bullying decreased with age and was most common in the youngest age group (Table 1). Being victimized at least 2–3 times per month was reported by 7.2% of 11-year-olds compared with 5.6% and 3.6% of 13- and 15-year-olds, respectively. Being lied to, left out and called names were the most frequent manifestations of bullying (7.8–9.3%). Being teased because of body growth was more commonly reported by 13-year-olds (6.1%) than 11-year-olds (4.8%) or 15-year-olds (3.5%). Being beaten at least 2–3 times per month was more common at age 11 (6.3%) than age 13 (4.2%) or 15 (1.9%). Nearly 3% of the children reported that they were teased because of their foreign background. Cyber bullying—both with text messages and pictures—was more common in the 13-year-old age group (2.9–3.3%) than among 11- or 15-year-olds (1.9–2.3%). Being bullied because of disability or illness was reported by 2.0% of students, and being bullied because of religious beliefs was reported by 1.9% of students. Sexual harassment was reported by 1.7% of students (Table 1).

Table 1. Variations of bullying in schoolchildren (n=10,390). Frequencies of being victimized from bullying  $\geq 2$ -3 times a month.

<b>Variations of bullying</b>	<b>6 grade M=11 y n=3,333</b>	<b>8 grade M=13 y n=3,631</b>	<b>10 grade M=15 y n=3,426</b>	<b>Total M=13 y n=10,390</b>	<b><math>\chi^2</math> (df)</b>	<b>p-value<sup>1</sup></b>
Bullied in school (%)	7.0	5.6	4.0	5.5	41.44(2)	<.001
Being lied to (%)	11.4	10.9	6.8	9.3	55.35(2)	<.001
Left out (%)	10.4	8.8	5.1	8.1	75.06(2)	<.001
Called names (%)	9.3	9.0	4.8	7.7	60.10(2)	<.001
Bullied because of body growth, (%)	4.8	6.1	3.5	4.8	31.01(2)	<.001
Beaten, (%)	6.3	4.2	1.9	4.1	93.85(2)	<.001
Bullied because of being foreign (%)	3.0	3.2	1.8	2.7	24.55(2)	.001
Cyber bullying: text (%)	2.2	3.3	2.3	2.6	13.57(2)	.005
Cyber bullying: picture (%)	2.1	2.9	1.9	2.3	13.70(2)	<.001
Bullied because of disability or illness (%)	1.9	2.1	1.3	2.0	25.90(2)	.004
Bullied because of religion (%)	2.1	2.3	1.1	1.9	22.79(2)	.004
Bullied because of sexuality (%)	1.9	2.2	1.2	1.7	16.91(2)	.003

Note: Missing values: <3%. M=mean, y=years;  $\chi^2$  = Pearson Chi-Square test; df = degree of freedom.

### *Sociodemographic predictors*

Table 2 shows multivariate logistic regression of bullying on sociodemographic predictors. In addition to grade and age variations, bullying was associated with family structure. Children living with both parents were less likely to be victimized: 4.6% of children living with both their parents reported being bullied versus 15.9% of children in “other” family arrangements (e.g., living with grandparents or foster family). Furthermore, bullying was more common in rural than metropolitan areas. Speaking a foreign language was also associated with a greater likelihood of being bullied. However, the country of birth of the students and that of his/her parents did not affect the likelihood of being bullied. Socioeconomic status, as measured by the FAS, was not correlated with bullying (Table 2).

Table 2. Logistic regression analysis of factors associated with bullying in schoolchildren (n=10,390)

	<b>Bullied <math>\geq</math> 2-3 times a month, n =567 (5.5%)</b>	<b>Odds ratio</b>	<b>95% CI for Odds ratio</b>	<b>p-value</b>
<b>Age<sup>a</sup></b>				
Grade 6 (M=11y), n(%)	240 (7.2)	1.90	1.45-2.44	<.001
Grade 8 (M=13y), n(%)	202 (5.6)	1.44	1.12-1.85	.004
Grade 10 (M=15y), n(%)	125 (3.6)			
<b>Sex<sup>a</sup></b>				
Boy, n(%)	270 (5.2)	.84	.69-1.01	.064
Girl, n(%)	297 (5.7)			
<b>Family structure<sup>a</sup></b>				
Living with both parents, n(%)	333 (4.6)	.30	.18-.49	<.001
Living with stepparents, n(%)	80 (5.8)	.38	.22-.65	<.001
Living with single parent, n(%)	109 (7.1)	.45	.26-.76	.003
Other (living with grandparents or in a foster family), n(%)	29 (15.9)			
<b>Socio-economic status (FAS)<sup>1,b</sup></b>				
Low affluence, n(%)	167 (6.4)	1.14	.88-1.49	.330
Medium affluence, n(%)	234 (5.0)	.98	.77-1.26	.896
High affluence, n(%)	109 (4.6)			
<b>Own country of birth<sup>a</sup></b>				
Iceland, n(%)	526 (5.3)	1.17	.74-1.84	.502
Foreign country, n(%)	59 (9.2)			
<b>Mother country of birth<sup>a</sup></b>				
Iceland, n(%)	511 (5.1)	.84	.55-1.28	.416
Foreign country, n(%)	74 (10.8)			
<b>Father country of birth<sup>a</sup></b>				
Iceland, n(%)	523 (5.2)	.85	.55-1.32	.475
Foreign country, n(%)	62 (9.8)			
<b>Language spoken at home<sup>a</sup></b>				
Icelandic, n(%)	478 (4.9)	.47	.34-.63	<.001
Other language, n(%)	107 (12.2)			
<b>Rural/ urban<sup>a</sup></b>				
Countryside, n(%)	275 (6.6)	1.50	1.24-1.81	<.001
Metropolitan area (Reykjavik area), n(%)	302 (4.8)			

Note. Hosmer and Lemeshow goodness-of-fit test,  $p=.304$ , Nagelkerke  $R^2=.039$ .

<sup>a</sup>Missing values <5 %

<sup>b</sup>Missing values = 9 %

<sup>1</sup>Socio-economic status is measured with the Family Affluence Scale (FAS). The relative affluence score is used to identify groups of young people in the lowest 20% (low affluence), middle 60% (medium affluence) and highest 20% (high affluence).

## Discussion

Estimates of bullying vary widely because of differences in definitions and methodologies (Rettew & Pawlowski, 2016). The prevalence of being bullied at least once in the past year in school-aged children in the United States is about 20% (Hatzenbuehler, Schwab-Reese, Ranapurwala, Hertz, & Ramirez, 2015). The prevalence of being bullied more than 2–3 times a month was 11% in the HBSC international research network, which includes 43 countries in Europe and North America (Inchley et al., 2016), compared with 5.5% in Iceland. The relatively low prevalence of bullying in Iceland might be the result of extensive work in many Icelandic schools to promote a friendly and safe atmosphere and to reduce bullying, for example by adopting the Olweus anti-bullying program (Olweus & Limber, 2010; Olweus, 2017). The Icelandic Olweus Project started in 2002. Today, more than 100 out of



Iceland's 190 schools have implemented the program, which means that more than 70% of all Icelandic primary school children use the program. The Olweus Schools in Iceland have experienced an average reduction in bullying of about two percentage points since the start of the program in 2004. These reduced levels of bullying have been maintained through regular follow-up by the Icelandic National Support Group (Olweus, 2017).

Nevertheless, it is disconcerting that more than 5% of children and adolescents in Iceland find themselves being bullied. The health of children and adolescents is a priority in public health (WHO, 2014). The teenage years are a time of transition from childhood to adult life, a developmental period marked by significant physical, psychological and social changes. In this phase of life, adolescents are searching for their identity, separating themselves from their parents, and placing greater emphasis on their peers and thoughts about the future (WHO, 2014). This finding suggests that children in this age group are more prone and vulnerable to being bullied.

Children from minority groups who speak a language other than Icelandic at home were more likely to be bullied. This finding is consistent with results from a review of 18 studies in which immigrant adolescents experienced higher rate of bullying compared with their native counterparts (Pottie et al., 2015). However, in our study, the country of birth of the students and their parents were not associated with bullying. This finding might indicate that separation and hostility in the peer context is more strongly correlated with language than foreign background.

Living in a rural area also increased the risk of being bullied. This result is inconsistent with findings from Australia (Quine et al., 2003) and the United States (McCaskill, 2013), where there were no reported differences in the prevalence of bullying in rural and urban schools. We do not know the reasons for the difference in bullying frequency in rural and urban areas in Iceland. Additional research should investigate whether urban schools are more likely to have implemented anti-bullying programs in Iceland.

Children living with grandparents or foster families and not their parents were also more likely to be bullied. This situation may reflect variations in resources for countering bullying, including parental support. The importance of parental support was also noted in a recent study of bullying among Icelandic adolescents aged 14–16 (Mann et al., 2015).

To adequately address bullying, large-scale efforts are needed involving multiple disciplines (Vreeman & Carroll, 2007). Having a high-quality anti-bullying policy at the school-district level is a critical element for reducing bullying (Hatzenbuehler et al., 2015), but it is the implementation of these anti-bullying policies within a school that ultimately affects student behavior (Glower et al., 2017). These measures include training school personnel, initiatives to promote school climate and school connectedness, specific bullying education programs, as well as parental involvement and cooperation (Mann et al., 2015; Weaver et al., 2013). Bullying can be difficult to change, and schools have limited resources to invest. Therefore, it is crucial to identify effective approaches (Glew, 2008). Pediatric nurses such as school nurses and child health nurses are ideally suited to preventing bullying at school along with school administrators, teachers, and school social workers. Educating families and school-aged children about bullying and cyberbullying and what to do about them is an important first preventive step (Betz, 2011; McBride, 2011; Solecki et al., 2014). For example, Sessanna (2004) describes a clinical practicum project that successfully used Nightingale's primary tenets—such as building trust, self-assessment, and group leadership—as a theoretical framework in a nursing practice group for the purpose of teaching a group of preadolescent

children about negative peer pressure. Group sessions addressed topics such as moral beliefs and values, bullying, and saying "no" to peer pressure and were structured using a variety of contemporary resources to develop interactive exercises that engaged the children and enhanced group communication. The children and their parents reported positive outcomes from the nurse-led group sessions (Sessanna, 2004).

Primary prevention efforts should be directed at all students and parents in each respective school. But not all students are equally affected by bullying. Our study found that a younger age, the use of a foreign language, not living with one's parents, and residing in the countryside were all risk factors for bullying. Therefore, in addition to primary prevention, indicated measures of secondary prevention and support should also be provided, particularly for higher-risk sociodemographic groups. The most prevalent representations of bullying were repeated name calling, being left out and being repeatedly lied to. These instances are among many others indicating that a school needs to seriously address a bullying problem among its students.

### *Limitations and further studies*

The strengths of this study include its large representative national sample, its high response rate, and its use of a standardized questionnaire. An anonymous questionnaire minimizes social desirability response bias or non-response due to sensitive items. The cross-sectional design of the study however prevented us from drawing conclusions about causality. Longitudinal studies are necessary to establish the actual causal pathways between sociodemographic risk factors and bullying. Such studies should look for intervening variables and mechanisms that might explain linkages between a student's sociodemographic background and bullying behavior and victimization. Increased understanding of bullying processes should help to tailor primary and secondary programs to more effectively prevent bullying behaviors and victimization and tackle occurrences of such behaviors at an early stage, actions that will benefit student health and well-being.

### *Implications for nursing practice*

When bullying victims ask for help, it is often in the context of general somatic complaints without an obvious cause. School nurses and pediatric nurses should screen for bullying risk factors such as sudden reports of changes in behavior (depressive symptoms, suicidal ideation) and chronic somatic symptoms without a discernable cause (Rettew & Pawlowski, 2016). Screening questions could be "I'd like to hear about how school is going. How many good friends do you have in school? Do other kids ever bully you at school, in your neighborhood or online? Who bullies you? When and where does it happen? What do they say or do?" (US Department of Health & Human, 2017). The power of sympathetic listening should not be underestimated (Rettew & Pawlowski, 2016).

On a school level, school nurses and pediatric nurses should advocate for the school-based implementation of anti-bullying policies and programs. Multicomponent school-based interventions (e.g., school policy changes, parent involvement, and work with local communities) are effective at preventing bullying (Shackleton et al., 2016). However, although bullying prevention programs can be effective at reducing bullying and victimization among school-aged youth, there is a significant need for more work to increase the acceptability, fidelity and sustainability of the existing programs in order to improve bullying-related outcomes for youth (Bradshaw, 2015).

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## Conflict of interests

None declared.

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