BULLYING AMONG GREENLANDIC SCHOOL-CHILDREN: DEVELOPMENT SINCE 1994 AND RELATIONS TO HEALTH AND HEALTH BEHAVIOUR

Christina Schnohr [1], Birgit Volmer-Larsen Niclasen [2]

[1]Department of Social Medicine, Institute of Public Health, University of Copenhagen, Denmark.
[2]District Medical Clinic, Nuuk, Greenland.

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ABSTRACT

Objectives. The objective was to examine the development in the prevalence of bullying behaviours among Greenlandic schoolchildren and the association with health outcome and health behaviour.
Study design. The study was based on three school surveys among Greenlandic schoolchildren contributing to the Health Behaviour in School-aged Children (HBSC) survey, a WHO collaborative study. The surveys were carried out in Greenland in 1994, 1998 and 2002, with respective participations of 1322, 1648 and 891 pupils of 11, 13 and 15 years of age.
Methods. The trends in bullying behaviours from 1994 to 2002 was analysed by means of descriptive statistics. The strengths of associations in the patterning of the bullying behaviours in their relation to health indicators (physical symptoms, psychological well-being and smoking and alcohol use) were analysed by means of logistic regression.
Results. There has been an increase in the occurrence of bullying among Greenlandic schoolchildren since 1994, and significant changes have occurred in the different types of bullying behaviours. Consistent patterns were observed between types of bullying behaviours, and health behaviour, since pupils engaged in bullying were more likely to be smokers and to have been drunk several times. Strong associations were observed between disliking school and being engaged in bullying, whether this was as a victim, a bully, or both. There was no clear patterning of associations when it came to health indicators, except for significantly higher odds of stomach ache for the bullies, and sleeping difficulties and low self-rated health for pupils both being bullied and bullying others.
Conclusions. Being engaged in bullying is widespread among Greenlandic schoolchildren and is found to be associated with disliking school and detrimental health behaviours.
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Keywords: bullying, victimisation, Greenland, health indicators.

INTRODUCTION

In recent years, increased attention has been given towards the health effects of bullying among schoolchildren. Despite efforts to prevent bullying, this type of behaviour is still widely occurring (1-4). Bullying is considered as a cause of physical and psychological stress and emotional problems. Most recent studies consider bullying in childhood a precursor for both present and future health problems (5, 6). Victims of frequent bullying are reported to experience a range of physiological, psychosomatic and behavioural symptoms, including anxiety and insecurity (7), psychiatric problems (8), low self-esteem and self-worth (9, 10), sleeping difficulties, frequent headaches and abdominal pain (11). Bullies are more prone to dislike school and engage in other health-compromising behaviours, such as smoking and drinking (12). Longitudinal studies have found victimisation to predict the onset of emotional problems a year later (13), and victims of bullying scored highest in internalizing behaviours and psychosomatic symptoms (6). Children who are both bullied themselves and who bully others are at risk of remaining involved in bullying over longer periods (8).

The above-mentioned consequences of bullying behaviour, makes it of fundamental importance to determine the occurrence and development of bullying in school settings, which is regarded as a first step towards preventing the further spread of bullying behaviours.

Although definitions of bullying may vary, bullying has been defined as *the intentional unprovoked abuse of power by one or more children to inflict pain or cause distress to another child on repeated* occasions (14). Bullying might take the form of verbal acts, such as threats, insults, or nicknames, or of physical acts, such as assault, or theft. Social acts, such as exclusion from a peer group, are also considered as bullying.

The prevalence of bullying varies between countries, which is partly due to differences in the types of measurements used (15). This study aimed to examine the trends in bullying behaviour observed between three cross-sectional surveys which took place in school settings in Greenland as part of the HBSC study. Even though the causal relation between bullying behaviours and health cannot be determined by means of a cross-sectional questionnaire survey, this study describes the statistical strengths in the emerging co-occurring patterns.

The study defined different bullying behaviours to illustrate the development within these between 1994 and 2002 among Greenlandic schoolchildren. Furthermore, the study compared bullying behaviours to different health behaviours and health outcome.

MATERIAL AND METHODS

The study is based on data from the Greenlandic participation in the Health Behaviour in School-Aged Children (HBSC) study, in the years 1994, 1998 and 2002. HBSC is an international WHO collaborative study, with cross-sectional surveys performed every fourth year among 11-, 13- and 15-year-old students. The students answered a standardised questionnaire during a school lesson, after instruction from the teacher. In the present study, analyses were based on data from 1,322 students in

1994, 1,648 in 1998, and 891 in 2002. The relatively low participation rate in the 2002-survey was due to missing follow-up by the scientific personnel to the schools, which had agreed to be enrolled in the study. However, despite the lower number of respondents, data from 2002 is a representative sample for towns and settlements in Greenland in concordance with the two previous surveys performed.

All respondents included in this study reported the frequency in which they experienced bullying, and were categorised according to the groups described below.

Types of bullying behaviours

In the questionnaire, the definition of bullying was presented as follows: "*bullying is when a student, or groups of students, says or does nasty things to another student. It is also bullying when a student is teased repeatedly in a way that he, or she, doesn't like. But it is not bullying when two students of about the same strength quarrel or fight*".

Students were asked to respond to two questions: "*During this term, how often have you been bullied at school?"* and "*During this term, how often have you bullied others?"*. The students could answer: *"I haven't been bullied/bullied others at school", "It happened only once or twice", "2 or 3 times a month", "every week", or "several times a week"*.

The answers were dichotomised into students who had experienced bullying at least weekly, and divided into the following groups. The large group of schoolchildren who had experienced no bullying during the past year, was named *Neither/nor*. The group of schoolchildren who suffered bullying on a weekly basis, was named *Victims*, and the group who bullied others on a weekly basis was named *Bullies*. The group of schoolchildren, who both bullied others every week and who had been bullied themselves every week, was named *Nallinnartut*, which is a Greenlandic word meaning "*those poor people*". All analyses were performed comparing these four types of behaviours.

Health outcomes

The students responded to questions on a number of psychosomatic symptoms, and they were asked to report the frequency of headache, stomach ache and sleeping difficulties. These were included as an indicator of health. The reported symptoms were dichotomised into I (at least every week) and II (rarely or never). Self-rated health was measured by asking the students "*Would you say your health is…?"* To which they could answer "*Excellent", "Good", "Fair", or "Poor"*. The responses where dichotomised into I (excellent/good) and II (fair and poor), and were included as another general health measure. A question on the general liking of the school was included, since outcome was expected to have an effect on the general perception of the school. The question whether the student liked going to school was categorised into I (liking school) and II (disliking school).

Health behaviour

Smoking was included on the basis of questions on smoking habits, where current smoking status was included as I (no smoker/occasional smoker) and II (daily smoker). Alcohol consumption was included as the number of times the student reported to have been drunk I (0 to 4 times) and II (more than 4 times).

Statistical analyses

The prevalence of the bullying behaviours was assessed by means of descriptive statistics, and the development was assessed by analysing the distribution of bullying behaviours by year of survey. Logistic regression based on data from 2002 was used to determine odds ratios for different health outcomes and health behaviours. These analyses were adjusted for age and gender. The analyses were performed using SPSS version 13.0.

RESULTS

The distributions of bullying behaviours were significantly different between genders in 1994 ($p = 0.005$) and 1998 ($p = 0.003$), reflecting that boys generally engage in, and experience, bullying more often than girls. In 2002, the p-value was borderline significant ($p = 0.050$). The distribution of the different types of bullying behaviours have changed significantly between the surveys ($p > 0.001$).

The proportion of schoolchildren who had not engaged in, or experienced, any type of bullying decreased from 83.4% in 1994, to 74.1% in 2002 (table I). The proportion of victims increased from 6.7% of the total population in 1994, to 11.4% in 2002. The proportion of bullies increased from 5.3% in 1994, to 6.6% in 2002, and the proportion of *nallinnartut* increased from 4,6% in 1994, to 7.8% in 2002.

Table II illustrates the proportion of students engaged in the defined types of health behaviour, or who experienced the adverse health effects, as well as the odds ratios between the reference group (neither/nor), and the defined groups of bullying behaviours. The table shows that poor health behaviour, meaning that more smokers (OR = 4.3, 95% CI 1.70-6.97), and children who had been drunk on several occasions (OR = 3.1, 95% CI 1.55-6.35), was observed among the bullies. Furthermore, there were clear indications that engaging in bullying behaviours was associated with disliking school, since 31.5% of victims, 28.3% of the bullies, and 39.7% of nallinnartut disliked school. Here, strong associations were observed, since victims had increased odds of disliking school (OR = 2.2, 95% CI 1.30-3.61), but, of all the groups, nallinnartut disliked school the most (OR = 2.8, 95% CI 1.58-4.91)

Table I. Trends and gender differences in the bullying behaviours among Greenlandic schoolchildren (%).

%		Neither/nor	Victims	Bullies	Nallinnartut	p
1994	Total	83.4	6.7	5.3	4.6	
	Boys	79.8	7.2	7.1	5.9	0.050
	Girls	86.8	6.2	3.6	3.4	
1998	Total	84.2	7.7	5.0	3.1	
	Boys	82.4	7.0	6.7	3.9	0.003
	Girls	86.0	8.5	3.4	2.2	
2002	Total	74.1	11.4	6.6	7.8	
	Boys	73.3	10.1	9.3	7.2	0.005
	Girls	74.7	12.4	4.6	8.3	

Looking at the prevalence of reported symptoms, there were general tendencies towards more symptoms among children who were engaged in any type of bullying. The strengths of the associations were not significant, however, except for the reporting of stomach ache among bullies (OR = 2.7, 95% CI 1.23-5.76), and sleeping difficulties (OR = 2.0, 95% CI 1.12-3.54) and low self-rated health (OR = 1.8, 95% CI 1.00-3.18) among nallinartut.

DISCUSSION

This study showed that there has been an increase in the prevalence of bullying in Greenlandic schools, or at least that Greenlandic schoolchildren experienced bullying more often in 2002 than in 1994.

This might reflect a general increased awareness of the issue of bullying, but must be considered as a potential source of poor environment in the schools, as the effects of bullying are negative to the health and well-being of the individual (5-8, 11, 13, 15, 23, 24).

Table II. Bullying group in relation to health behaviour and health outcome: Prevalence and logistic regression, crude estimates* and estimates adjusted for age and gender**.

HBSC 2002	Bullying behaviour	%	Crude OR* (95% CI)	Adjusted OR** (95% CI)
Daily smoker	Neither/nor	23.2	1	1
	Victims	21.7	0.9 (0.55-1.59)	1.9 (0.98-3.54)
	Bullies	43.4	2.5 (1.45-4.62)	3.4 (1.70-6.97)
	Nallinnartut	23.8	1.1 (0.56-1.92)	1.2 (0.61-2.54)
Drunk more than 4 times	Neither/nor	12.9	1	1
	Victims	12.0	1.0 (0.50-1.92)	1.7 (0.79-3.67)
	Bullies	30.2	2.9 (1.53-5.42)	3.1 (1.54-6.40)
	Nallinnartut	14.3	1.2 (0.56-2.48)	1.4 (0.59-3.19)
Not liking school	Neither/nor	19.1	1	1
	Victims	31.5	1.9 (1.21-3.20)	2.2 (1.30-3.62)
	Bullies	28.3	1.6 (0.87-3.07)	1.7 (0.88-3.19)
	Nallinnartut	39.7	2.8 (1.62-4.84)	2.8 (1.58-4.92)
Weekly headache	Neither/nor	18.3	1	1
	Victims	20.7	1.2 (0.67-1.99)	1.2 (0.66-2.01)
	Bullies	28.3	1.7 (0.92-3.29)	2.1 (1.11-4.14)
	Nallinnartut	27.0	1.7 (0.96-3.18)	1.7 (0.88-3.01)
Weekly stomach ache	Neither/nor	9.6	1	1
	Victims	13.0	1.4 (0.72-2.73)	1.0 (0.50-2.07)
	Bullies	18.9	2.1 (1.02-4.50)	2.7 (1.23-5.76)
	Nallinnartut	15.9	1.9 (0.90-3.91)	1.5 (0.70-3.33)
Weekly sleeping difficulties	Neither/nor	24.3	1	1
	Victims	31.5	1.4 (0.87-2.27)	1.4 (0.87-2.36)
	Bullies	37.7	1.8 (0.98-3.16)	1.6 (0.87-2.96)
	Nallinnartut	36.5	2.0 (1.15-3.56)	2.0 (1.12-3.54)
Low self-rated health	Neither/nor	23.7	1	1
	Victims	28.3	1.3 (0.78-2.1)	1.1 (0.67-1.92)
	Bullies	24.5	1.1 (0.57-2.129	1.1 (0.55-2.33)
	Nallinnartut	36.5	2.0 (1.12-3.39)	1.8 (1.00-3.18)

This might partly explain the observed increase in the proportion of schoolchildren who report that they dislike going to school (16).

The study showed that the types of bullying behaviours have changed remarkably, since the proportion of children claiming to be bullies has increased by 25% between 1994 and 2002, whereas there are 90% more victims in 2002 compared to 1994, and 70% more *nallinartut*. This might be an indication that the schools of 2002 have a "more rough" environment compared to 1994, since more children feel that they are exposed to what they consider to be bullying. This might have to do with higher demands, or less time for the teachers to focus on creating a positive atmosphere and learning environment, or simply that children of today are less sensitive to considering the consequences of their behaviour. Whichever the case, studies have shown that schools making an effort to combat bullying show remarkable results in reducing its prevalence and, thus, in reducing the detrimental effects that bullying has on children (5, 17, 18). In the Nordic countries, Sweden has the remarkably low prevalence of bullying of about 7% (19), presumably due to the strong anti-bullying policies implemented.

The latest international report from HBSC concluded that Greenlandic children aged 11, 13 and 15 are among the top 7 of 35 countries (in Europe, Canada and the US) with respects to bullying others several times during the past months. When comparing results obtained for the proportions of children being bullied, Greenland ranks second highest, after Lithuania. The HBSC averages for bullying others are 10% for girls and 14% for boys, while the numbers for Greenland are an alarming 26% for girls and 18% for boys (20). These findings make bullying an issue of high relevance for all professionals working in school settings. The circumpolar countries included in the HBSC are Canada, Greenland, Russia, Finland, Sweden, Norway, among which Sweden shows the lowest prevalence. Levels in Finland, Norway, Denmark and the US are situated around the HBSC average, with Canada slightly higher, and Russia and Greenland generally reporting the highest prevalence of bullying behaviours.

The evolution of reported bullying reflects both good and bad news. The fact that a relatively large proportion of schoolchildren experience bullying on a weekly basis, is a potential source of negative health effects and other negative outcomes concerning school life, as well as a general worsening of the psychological well-being. This is, of course, not positive at all, but the increased reporting of bullying also reflects an increased awareness, which is the first step towards handling the problem in the school.

Gender differences have been found in many previous studies and this study supports the findings that boys are generally more engaged in bullying than girls.

Liking school is strongly affected by bullying and being a victim or *nallinnartut* seems to have a significant impact on the life in the school, since the general well-being in the school is reported to be lower for those groups. This can supposedly affect all aspects of engaging in the school activities, absence from school, as well as poor academic development. Other studies have found that victims are more likely to be absent from school, not only because of more health complaints, but also because of fear from going to school (21).

Even though the estimates are not all significant, there are tendencies that headache, stomach ache and sleeping difficulties

are general characteristics of all schoolchildren engaging in bullying behaviours, whether it is as victims, bullies, or *nallinnartut*. Symptoms can be seen as indicators for underlying problems in school and could therefore be factors in identifying schoolchildren at risk of engaging in bullying behaviours of an extended nature. The health behaviours did not vary significantly between the defined groups, except for bullies, who were more often daily smokers, and tended to get drunk more often.

This is the first study reporting the occurrence of bullying in Greenland, and the results indicate that this area should receive increased focus in order to promote a positive and healthy environment in the Greenlandic schools. Data on the HBSC 2006, available from the summer of 2006, will provide the opportunity to evaluate the current evolution of bullying.

The Greenlandic Board of Education reports that an average of 4% of all pupils in Greenland are absent on a particular school day, 2.8% with permission and 1.2% without permission (22). Children who were absent without permission on the day of the survey were most likely children who dislike school, which is plausibly due to bullying. This mechanism, however, is not possible to include, or adjust for, in the analyses.

Many bullies come from families characterized by little warmth and affection and, often, by inconsistent discipline and behavioural patterns. Bullies show more violent and aggressive behaviours when they grow older (8, 23), and they may develop serious antisocial and criminal behaviour in adulthood (24). Most victims tend to react passively to the bullying, become increasingly anxious, and develop low self-esteem. Children who already have much to cope with in terms of physical, emotional, or social disadvantages, often become victims of bullying. Detecting bullies may be more difficult, especially since parents often have no idea that their child is bullying others. Bullies are often arrogant, self-assured, and have difficulties accepting authority (18, 21). To ignore bullying is to condemn children to misery, perhaps also in adult life (14), and apart from the detrimental effects bullying has on the individual level, it is pointed out that the attitude towards bullying in all its form, which is signalled from authorities, whether school or governmental, sets the standard of which types of aggressive behaviours society accepts (18).

From these perspectives, it is important to identify bullies and victims, since their role in the bullying is often only a minor part of an unhealthy pattern, and studies has shown that interventions concerning bullying can be successful in reducing its prevalence (5, 17, 18). International comparative studies of bullying have concluded that effective interventions made to reduce bullying in schools can never eliminate the problem, but they can reduce it by approximately 50% (25). It is recommended that bullying is prevented in order to improve the general well-being of schoolchildren, their academic achievements and the general health of the young population; the results of this study have shown that this is particularly relevant in the context of Greenlandic schools.

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Christina Schnohr
Department of Social Medicine
Institute of Public Health
University of Copenhagen
Oester Farimagsgade 5
Copenhagen 1353 K
Denmark
Email: c.schnohr@pubhealth.ku.dk