

## Prevalence and characteristics of school age bullying victims

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### Abstract

**Objective:** To describe the prevalence of bullying victims, the characteristics of those victims and their associated symptoms in the domains of emotion, behavior, hyperactivity and peer relationships.

**Methods:** This was a cross-sectional study nested in a cohort that assesses disorders of reading, writing and arithmetic in 1,075 students enrolled in the first to eighth grades of two public schools in a lower-middle-class neighborhood of the city of Pelotas, RS, Brazil. The KIDSCAPE questionnaire was used to evaluate the prevalence of bullying and the Strengths and Difficulties Questionnaire was used to assess victims' behavioral characteristics.

**Results:** The prevalence of bullying was 17.6%. The most prevalent type of intimidation was verbal, followed by physical, emotional, racial and sexual. After adjustment for confounding factors, bullying was still associated with male sex (PR 1.49 95%CI 1.14-1.96), hyperactivity (PR 1.89 95%CI 1.25-2.87) and peer relationship problems (PR 1.85 95%CI 1.24-2.76). Among the victims of bullying, 47.1% had also initiated bullying.

**Conclusions:** This study has identified the behavioral characteristics of bullying victims which may prove useful for local policies designed to protect the targets of bullying.

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### Introduction

Bullying is observed in all cultures<sup>1</sup> and it is a practice that causes psychological suffering, low self-esteem and isolation and which is detrimental to learning and to academic performance. There are studies describing successful interventions that are founded on multidisciplinary activities that involve several levels of prevention.<sup>2,3</sup> Knowledge of

the behavioral characteristics of those schoolchildren who are the targets of aggression and intimidation may be useful for actions designed to protect the victims of bullying.<sup>4</sup> Children are considered to be bullying victims when they are repeatedly exposed to negative actions inflicted by one or more other children. These negative actions may take

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the form of physical contact, verbal abuse or offensive expressions or gestures. Spreading rumors and excluding victims from a group are also common forms of violence. Bullying implies a power imbalance between the people making the threats and the victims, which characterizes an asymmetrical power relationship.<sup>5</sup> Therefore, repeated acts between peers (schoolchildren) and a power imbalance are essential ingredients that make it possible to intimidate the victim.<sup>6</sup>

Victims often suffer from feelings of insecurity that prevent them from seeking help. They make few friends, are passive and do not react to acts of aggression. In many cases their performance at school will be negatively impacted, they may refuse to go to school and sometimes simulate illness. It is not uncommon for them to change schools or even drop out of education.<sup>7</sup> There is also evidence that bullying victims suffer from mental disorders. Studies have shown that children who are victimized may be at risk of suicide, depression, anxiety and relationship problems.<sup>6,8</sup>

These behavioral and learning disorders mean that there is a need for intervention strategies developed on the basis of knowledge about the types and prevalence rates of bullying in different communities.<sup>9,10</sup>

The objective of this study is to describe the prevalence and the characteristics of bullying victims in two public schools.

## Methods

This study was conducted with 1,075 students from primary schools in the Fragata neighborhood of the city of Pelotas, Brazil. Both schools are public, one is run by the municipal education department and the other by the state education department. We enrolled all of the children (from the first to the eighth grade) from both these schools on the study.

This is a sample of convenience since we chose schools that are located close to the city's Medical Faculty. This is because the umbrella study of which this study is a part includes interventions that are only feasible at schools that are in close physical proximity to our clinic.

Trained interviewers conducted interviews during home visits and under the supervision of two epidemiologists. The KIDSCAPE bullying identification questionnaire, used by the British charity of the same name, was administered to the children.<sup>11</sup> Each child was asked how many times they had suffered some type of intimidation, and the outcome of "bullying" was defined as more than one intimidation event during the previous month. Subjects' ages were classified into the following categories: 6 to 8 years, 9 to 11 years and 12 to 18 years. The location in which bullying took place was classified as: on the way to or from school; in the schoolyard; in the school bathrooms; in the classroom; in the

school dining hall; or in other locations. The consequences of bullying were classified as follows: no consequences, some bad consequences; terrible consequences; or student forced to change schools. The type of victimization was classified as: physical; verbal; emotional; sexual; or racial abuse. Finally, the students were asked if they themselves had ever intimidated, attacked or abused anyone. The children were assessed for emotional and behavioral factors by administering the Strengths and Difficulties Questionnaire (SDQ)<sup>12</sup> to children and parents. The SDQ is used to screen 4 to 17-year-old children for mental health problems. This instrument was administered to the parents of children less than 11 years old, whereas children over this age answered it themselves, in addition to administering it to their parents. The instrument comprises 25 items, five in each of five subscales covering emotional symptoms, behavioral problems, hyperactivity, relationship problems and prosocial behavior.<sup>10</sup> The items from the first four subscales provide an overall score for "difficulties."

Prevalence ratios were calculated to a 95% confidence interval. We used multivariate analysis with Poisson regression, because this is more appropriate for cross-sectional studies with binary logistic regression outcomes, since prevalence ratios are easier to interpret and to explain to non-specialists than odds ratios.<sup>13</sup> Data were double-input into EPI-INFO and the adjusted analysis was performed using Stata 9.

This study is part of a larger study the objective of which was to identify the prevalence rates of learning development disorders (dyslexia and dyscalculia) and behavioral disorders and of stress factors among family members and teachers. The study was sponsored by the Rio Grande do Sul State Health Department (Secretaria Estadual de Saúde) as part of its violence prevention program and also receives support from UNESCO.

The parents or guardians of all children involved signed a free and informed consent form giving them permission to take part and the project was approved by the ethics committee at the Universidade Federal de Pelotas (UFPEL) under protocol number 093/09.

## Results

We were able to complete home visits and interviews for 1,075 of the 1,119 children enrolled at the two schools, with a loss of 4% of the sample.

Since there were no statistically significant differences between the children from the two schools in terms of their socioeconomic characteristics or of their mother's educational levels, the schoolchildren from both schools were analyzed together. The sample was 52.7% male. The children's ages broke down as follows: 28.5% were 6 to 8; 32% were 9 to 11; and 39.6%, were aged from 12 to 18.

**Table 1** - Characteristics of the sample from the two schools

Characteristics	School 1	School 2	p
Mean number of years mothers spent in education	6.73 (3.24)	7.02 (3.49)	0.158
Age			0.455
6 to 8	151 (27.7%)	155 (29.2%)	
9 to 11	168 (30.8%)	175 (33%)	
12 to 18	226 (41.5%)	200 (37.7%)	
Sex			0.995
Male	287 (52.7%)	279 (52.6%)	
Female	258 (47.3%)	251 (47.4%)	
Grade			0.646
1st to 4th	304 (55.8%)	303 (57.2%)	
5th to 8th	241 (44.2%)	227 (42.8%)	
SDQ emotional domain			0.947
Normal	238 (44.1%)	227 (43.1%)	
Borderline	108 (20%)	107 (20.3%)	
Abnormal	194 (35.9%)	193 (36.6%)	
SDQ behavioral domain			0.000
Normal	259 (48%)	325 (61.7%)	
Borderline	79 (14.6%)	69 (13.1%)	
Abnormal	202 (37.4%)	133 (25.2%)	
SQD hyperactivity domain			0.028
Normal	297 (55.3%)	329 (62.8%)	
Borderline	86 (16%)	61 (11.6%)	
Abnormal	154 (28.7%)	134 (25.6%)	
SDQ relationship domain			0.641
Normal	337 (62.6%)	344 (65.4%)	
Borderline	62 (11.5%)	57 (10.8%)	
Abnormal	139 (25.8%)	125 (23.8%)	

SDQ = Strengths and Difficulties Questionnaire.

The first four grades contained 56.5% of the sample and the remainder were in the fifth to eighth grades.

The prevalence of children who were suffering bullying was 17.6%. The majority of aggression events took place in the schoolyard (55.1%). Intimidation took the following forms: 75.1% was verbal, 62.4% physical, 23.8% emotional, 6.3% racial and 1.1% was sexual. Among the victims, 47.1% stated that they had also initiated bullying at school.

Table 1 shows that, in the raw analysis, male sex, emotional problems, behavioral problems, hyperactivity and relationship problems were all associated with being a victim of bullying. After adjustment, the association with sex remained ( $p = 0.003$ ), with bullying being more prevalent among boys (PR 1.49 95%CI 1.14-1.96). The SDQ domains of hyperactivity ( $p = 0.002$ ) and problems relating with peers ( $p = 0.003$ ) also remained associated with the outcome after adjustment. Students who scored for hyperactivity on the SDQ (PR 1.89 95%CI 1.25-2.87) and those with peer

relationship problems (PR 1.85 95%CI 1.24-2.76) were more likely to be associated with victimization.

## Discussion

The prevalence of 17.6% observed in these two schools is similar to rates found by studies undertaken in other countries and in Brazil. The pioneering studies conducted by Olweus found that around 15% of Swedish schoolchildren were involved in bullying as victims or bullies.<sup>2</sup> In 2002, a study of 5,875 fifth to eighth grade schoolchildren from 11 schools in the city of Rio de Janeiro found that 16.9% of them suffered from bullying.<sup>7</sup> These findings emphasize the universal character of the problem, although it is possible that different definitions of bullying could constitute a limitation to this type of comparison.<sup>14</sup> The higher prevalence of male bullying victims is also compatible with other studies.<sup>15-17</sup> One possible explanation for this is that boys suffer bullying

in a more physically direct form, while girls suffer from verbal abuse and exclusion, which is less visible and so is noticed less.

Studies have shown that the prevalence of bullying reduces as age increases,<sup>1,15,17</sup> which was also observed in our study.

With regard to the type of bullying, verbal abuse was most prevalent. Name calling, usually offensive names or names that refer to a given physical characteristic or weakness, can explain the predominance of this type of aggression. This finding is in line with the results of other authors, who also found verbal abuse to be most prevalent, followed by physical abuse.<sup>18,19</sup> Just two children (1.1%) reported having been the victims of sexual threats or abuse; this is in contrast with two American studies that found that 27% of subjects had frequently been the targets of sexual abuse when schoolchildren.<sup>20</sup> One possible reason for this is that sexual threats or abuse expressed in words may have been interpreted as verbal bullying.

After the adjusted analysis, the behavioral factors that remained associated with bullying were relationship problems and hyperactivity. These findings are plausible with relation to the characteristics of some of the children who are victims of bullying, who tend to be timid and find it difficult to take part in relationships with their peers. The association with hyperactivity may correspond to a different type of victim, with a provocative profile. This type of victim exhibits a combination of anxiety and aggressive traits and sometimes provokes their peers with hyperactive and irritating behavior.<sup>2</sup> This may also explain our finding that 47.1% of the bullying victims had also initiated bullying, which is compatible with another study in which half of the victims were also aggressive with their peers.<sup>21</sup> It is possible that there is no absolute separator between victims and bullies. This type of response may not be exclusively the result of behavioral characteristics, but may also be a defense mechanism. One limitation of this study is the fact that it is incapable of testing the effects of causality. Since this was a cross-sectional study, it was not possible to investigate whether hyperactive children and children with relationship problems suffer more bullying or whether they are hyperactive and have relationship problems because they are being bullied. Another limitation of this study is the sample of convenience, which comprised two schools close to our Medical Faculty, which reduces the power for generalization and for inference from our results. There is also a limitation with regard to the instrument used to identify bullying victims (KIDSCAPE), since it has not been adapted for the Brazilian population, merely translated, which affects prevalence.

Bullying may be a precursor of an anti-social personality disorder or other violent behavior in adolescence and adulthood.<sup>22</sup> It is possible that early intervention programs can play some kind of a role in preventing anti-social,

delinquent and criminal behavior.<sup>23</sup> In our context, programs and interventions must focus on the intersection between bullies and victims.

In order to better understand violence in Brazil, it is necessary to investigate the natural history of disruptive behavior disorders, including other variables related to family characteristics<sup>24</sup> and other exposures<sup>25</sup>; and it is also important to discover whether there is a window during which such behavior may be more easily modified. There is a need for large-scale prospective studies of bullying with representative samples, which can provide the basis for more comprehensive policies for the prevention and reduction of harm among children subject to violence.

## Conclusions

Our study identified behavioral characteristics of schoolchildren suffering from bullying which may be of use for local intervention policies and could provide a basis for hypotheses to be tested in future studies.

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