

## Assessment of general bullying and bullying due to appearance of teeth in a sample of 11-16 year-old Peruvian schoolchildren.

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**Abstract:** Objective: To assess the incidence of general bullying and bullying due to the appearance of teeth in a sample of 11-16 year-old Peruvian schoolchildren. Materials and methods: Cross-sectional study with a sample of 218 students aged 11 to 16 years old ( $13.41 \pm 1.44$ ), 109 males, and 153 from a public school. A survey on general bullying and the appearance of teeth was applied using a validated questionnaire. Results: The frequency of general bullying was 32.57%, and bullying due to dental appearance was 18.81%. General bullying ( $p=0.005$ ) and dental appearance ( $p=0.024$ ) were more frequent in the public school, but there were no statistically significant differences according to sex. The highest frequency of general bullying was related to name-calling, which accounted for 47.71%. Victimization by appearance of teeth in one or two occasions in the last two months accounted for 12.39%, according to participating subjects. Conclusion: General and tooth-related bullying was more frequent among students in public schools, with no significant differences according to sex.

**Keywords:** Bullying; dental appearance; adolescence; private education; public education.

### INTRODUCTION.

Bullying consists of the aggressive behavior exhibited repeatedly against an individual in a relationship characterized by an imbalance of power.<sup>1</sup> It can be direct victimization (physically aggression) or indirect victimization (aggressor or observer). Its implications are far-reaching and include depression, low self-esteem, mental and physical health problems, poor academic performance,<sup>2</sup> and involvement in crime.<sup>3</sup>

Some dentofacial alterations may predispose people to anxiety and distress, as these alterations are noticeable during daily interactions. Therefore, such alterations have been associated with hurtful teasing and unhappiness.<sup>4</sup>

Educational institutions should ensure the socialization of their students, and students should avoid all types of abuse or harassment, with an emphasis on strengthening respect, tolerance and assertiveness. However, bullying may occur and manifest itself in different ways depending on the type of educational institution.<sup>5</sup>

Bullying is a global concern and its study has aroused the interest of many scientists.<sup>1</sup> However, it is not clear how the appearance of teeth can be a cause of bullying. The aim of this research was to assess the

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incidence of general bullying and bullying due to the appearance of teeth in a sample of 11-16 year-old Peruvian schoolchildren.

## MATERIALS AND METHODS.

A cross-sectional study was conducted in a sample of 218 students aged between 11 and 16 years old ( $13.41 \pm 1.44$ ), 109 females and 109 males, 153 from a public school and 65 from a private school in the city of Trujillo, Peru. The students were randomly selected from a population of 313 students, 219 from the public school and 94 from the private institution. Selection criteria were: presence of permanent teeth up to first molars, and absence of orthodontic, orthopedic or prosthetic attachments.

This study was approved by the Permanent Research Committee of the Stomatology School of Universidad Privada Antenor Orrego in Trujillo, Peru, under Rectoral Resolution No. 1770-2016-FMEHU-UPAO. All students gave their informed consent, which was also signed by one of their parents or guardians.

General bullying was assessed as 'physical aggression' by means of a previously used questionnaire.<sup>5,6</sup> It was considered general bullying when two or more of the nine questions assessed (Table 1) received affirmative answers.<sup>5</sup> A question adapted by the authors was used for the diagnosis of bullying by appearance of teeth (question 10), which was based on another previously used questionnaire.<sup>7</sup>

Reliability of the questionnaire was assessed through a pilot study conducted in 40 schoolchildren ( $KR-20=0.736$ ,  $p<0.001$ ), most questions were considered dichotomous. Question 10 was dichotomized in the presence of bullying due to the appearance of teeth (affirmative response to alternatives b, c, d or e) or absence of bullying (affirmative response to alternative a). Participating students filled out the questionnaire individually in ten minutes approximately.

Data were processed with statistical software STATA 13 (Stata Corp., USA). *Z-test* was used ( $p<0.05$ ) to compare differences by sex and type of educational institution.

**Table 1.** Frequency and percentage of affirmative answers to the questionnaire questions.

	Question	Affirmative responses	
		n	%
Answer in the case that a classmate has harassed or threatened you during this year:	1) Did someone call you names? 2) Have you been physically attacked? 3) Have you been harassed in some other way? 4) Did someone spit on your face? 5) Have you been discriminated against? 6) Did someone try to take your money or belongings? 7) Did someone send you offensive e-mail messages? 8) Did someone force you to do something you did not want to? 9) Did someone call you homosexual?	104 15 21 52 22 1 28 26 26	47.71 6.89 9.63 23.85 10.09 0.46 12.84 11.93 11.93
10) Were you bullied because of the appearance of your teeth?	a) I have not been bullied at my school in the last 2 months b) This has only happened once or twice in the last two months c) This has only happened 2 or 3 times a month d) This has happened once a week e) This has happened several times a week	177 27 5 6 3	81.19 12.39 2.29 2.75 1.38

**Table 2.** Comparison of general bullying and bullying due to the appearance of teeth according to sex and type of educational institution.

Bullying according to educational institution	Females (n=109)		Males (n=109)		Total (n=218)			
	n	%	n	%	p*	n	%	
							p*	
General public school (n=153)	28	34.15	30	42.25	0.263	58	37.91	0.005
General in private school (n=65)	8	25.00	5	15.15	0.336	13	20.00	
Due to dental appearance in public school (n=153)	21	25.61	13	18.31	0.311	34	22.22	
Due to dental appearance in private school (n=65)	4	12.50	3	9.09	0.449	7	10.77	0.024
Total general bullying	31	28.44	40	36.70	0.232	71	32.57	
Total bullying due to dental appearance	25	22.94	16	14.68	0.258	41	18.81	

## RESULTS.

Table 1 shows the frequency and percentage of affirmative responses to the questionnaire questions. Table 2 shows the comparison of general bullying and bullying due to appearance of teeth according to sex and type of educational institution.

## DISCUSSION.

General bullying and bullying due to the appearance of teeth were more frequent in the public school. These results agree with those reported by Chikaodi *et al.*<sup>4</sup> and Oliveiros *et al.*<sup>6</sup> who found that general bullying is more frequent in public schools. These authors<sup>6</sup> reported that school bullying was characterized by name-calling, followed by physical aggression, and thirdly by discrimination. In the present study, the highest frequency of bullying was also caused by name-calling. However, unlike Oliveiros *et al.*<sup>6</sup> in the present study the second reason was spitting. One point worth considering is that cyber-bullying appears in the third place, a tendency that should be addressed in further research given the rapid technological changes.

Our results also coincide with those of Chikaodi *et al.*<sup>4</sup> who reported no differences between females and males. It is possible that the similarity between the two groups can be attributed to the fact that there are other factors more relevant than sex, such as greater economic control, relationship with physical punishment, consumption of

tobacco, alcohol and drugs, and even having already had sexual relationships.<sup>8</sup>

Despite the results of this study, high frequency of general bullying has been previously reported in private schools (54.7%).<sup>6</sup> Likewise, Mello *et al.*<sup>8</sup> reported that children who attend private schools were more likely to suffer all types of violence compared to those in public schools.

Regarding bullying due to the appearance of teeth, most of the participating students in this research reported a low frequency. However, although this frequency may seem low, pointing out to the students that some type of malocclusion is present could have an impact on their self-esteem.<sup>9</sup>

The higher frequency of bullying due to appearance of teeth in the public school may indicate that the socioeconomic educational context influences the presence of bullying. In this regard, Al-Bitar *et al.*<sup>7</sup> identified some dentofacial features associated with bullying, such as spacing between teeth, or missing or prominent upper anterior teeth, as well as their shape and color.

Students from disadvantaged socioeconomic backgrounds represent a group at risk of early victimization, as they suffer constant aggression from their parents, teachers and classmates.<sup>5</sup> Dental treatment could contribute to the reduction of bullying due to the appearance of teeth in schoolchildren.<sup>10</sup> In this sense,

during the patient's dental anamnesis, it is necessary to elicit and collect information related to psychosocial aspects, such as bullying, so that such information may be used to optimize treatment.

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## CONCLUSION.

General and teeth-related bullying was more frequent among students in public schools, with no significant differences according to sex.