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Socio-Economic, Socio-Political and Socio-Emotional Variables Explaining School Bullying: A Country-Wide Multilevel Analysis

Enrique Chaux[1]*, Andrés Molano[1,2], and Paola Podlesky[1]

[1]*Universidad de los Andes, Bogotá, Colombia*
[2]*Harvard Graduate School of Education, Cambridge, Massachusetts*

Why do some countries, regions and schools have more bullying than others? What socio-economic, socio-political and other larger contextual factors predict school bullying? These open questions inspired this study with 53.316 5th- and 9th-grade students (5% of the national student population in these grades), from 1,000 schools in Colombia. Students completed a national test of citizenship competencies, which included questions about bullying and about families, neighborhoods and their own socio-emotional competencies. We combined these data with community violence and socio-economic conditions of all Colombian municipalities, which allowed us to conduct multilevel analyses to identify municipality- and school-level variables predicting school bullying. Most variance was found at the school level. Higher levels of school bullying were related to more males in the schools, lower levels of empathy, more authoritarian and violent families, higher levels of community violence, better socio-economic conditions, hostile attributional biases and more beliefs supporting aggression. These results might reflect student, classroom and school contributions because student-level variables were aggregated at the school level. Although in small portions, violence from the decades-old-armed conflict among guerrillas, paramilitaries and governmental forces predicted school bullying at the municipal level for 5th graders. For 9th graders, inequality in land ownership predicted school bullying. Neither poverty, nor population density or homicide rates contributed to explaining bullying. These results may help us advance toward understanding how the larger context relates to school bullying, and what socio-emotional competencies may help us prevent the negative effects of a violent and unequal environment. Aggr. Behav. 35:520–529, 2009. © 2009 Wiley-Liss, Inc.

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INTRODUCTION

Bullying has many negative consequences. Those who bully others have a higher risk of getting involved in criminal careers [Olweus, 1993]. Those who are victims of bullying are more likely, among other consequences, to suffer from anxiety and depression, to reduce school engagement and academic motivation and to even risk dropping out of school [e.g., DeLuca et al., 2002; Forero et al., 1999; Gladstone et al., 2006; US Department of Education, 1998]. Furthermore, victims may resort to violence as vengeance against those who victimized them as has occurred in the recent school and college shootings in the United States [Leary et al., 2003]. In less extreme cases, bullying represents daily suffering and a horrible social life for millions of school-age children and adolescents around the world [Craig and Harel, 2004]. As much as 10–15% of school-age children and adolescents around the world suffer from bullying at least two times a month [Craig and Harel, 2004].

Despite the number of studies about bullying in recent years [Espelage and Swearer, 2003], we still lack a clear understanding of why bullying seems higher in some contexts than in others. Craig and Harel [2004] reported large differences in the level of bullying between countries. For example, while 32% of Lithuanian 15-year-olds reported being bullied two or more times during the last month, only 2% of Hungarian 15-year-olds reported being bullied with that frequency. Although some of these differences are probably due to different translations of the English term *bullying* [Smith et al., 2002], contextual factors may also be contributing.

*Correspondence to: Enrique Chaux, Department of Psychology, Carrera 1 E #18A-70, Universidad de los Andes, Bogotá, Colombia. E-mail: echaux@uniandes.edu.co

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Research has advanced substantially in identifying individual variables, and socio-emotional competences in particular, related to bullying or to being bullied. For example, lack of assertiveness has been shown to be a good predictor of being a victim of bullying [Kochenderfer and Ladd, 1997; Schwartz et al., 1993] and lack of empathy has been associated with being a bully [Endresen and Olweus, 2001; Olweus, 1993]. We also know that children who lack parental supervision or who are exposed to violence in their families are more likely to become bullies [Baldry, 2003; Baldry and Farrington, 2000; Margolin and Gordis, 2000], probably because socio-emotional competencies crucial to preventing bullying start developing early in life in caring families [Denham et al., 1997; Hoffman, 2000].

In addition to the specific effect of these socio-emotional competencies on potential bullies or victims, the average levels of these competencies among all students might help explain why there is more bullying in some contexts than in others. For example, in an environment where most students are empathic and assertive, bullying may not be as accepted as in other contexts and several students could be ready to intervene assertively to stop discriminations, mocking, exclusions or other forms of aggression which can lead to bullying. That is, these competencies might have effects not only at the student-individual level, but also at aggregate classroom or school levels.

Many studies have confirmed differences between boys and girls in their respective forms of aggression. Although physical and verbal aggression seems more common among boys, aggression through exclusion, gossip or other relational and indirect forms seems to be the preferred form among girls (although also common among boys) [Björkqvist et al., 1992; Card et al., 2008; Crick and Grotpeter, 1995; Galen and Underwood, 1997; Salmivalli and Kaukiainen, 2004]. Less is known, however, about the differences in aggression and bullying between all boys, all girls or coed schools. Similarly, differences in bullying between private and public schools, or between rural or urban schools have been poorly studied.

Furthermore, there is still much to understand about how the larger contextual factors are related to school bullying. Some studies have investigated the relationship between socio-economic conditions and bullying. Although some have found no relations [e.g., Borg, 1999; Rigby, 2004], others have found higher levels of bullying among children living in poor socio-economic conditions [e.g., Khoury-Kassabri et al., 2005; Pereira et al., 2004; Wolke et al., 2001]. Even more puzzling, Jankauskiene et al. [2008] recently found that bullies are over-represented in middle and high SES families, whereas victims are over-represented in low SES families. Furthermore, in a review of qualitative studies, Attree [2006] consistently found that children from low SES families fear being picked up or excluded by classmates because of failure to keep up with fashionable trends. These two results speak more about differences in access to resources than about lack of resources, that is, they might indicate that inequality could be more related to bullying than poverty itself. Socio-economic inequality is associated with power differentials between those who have access to resources and those who do not. This might lead to abuses by those with more power over those with less. In the economic and sociological literatures, inequality is more related to violence than poverty [e.g., Becker, 1968; Fajnzylber et al., 2002; Stack, 1984]. This possibility has not been so far explored in studies of bullying.

The relationship between bullying and exposure to urban community violence has been better studied. Schwartz and Proctor [2000], for example, found that children who had been victims of community violence were more likely to be victims of school bullying. On the other hand, those who had observed community violence were more likely to be aggressive toward classmates. Furthermore, they found that such relationships were mediated through the effect of exposure to violence on emotional regulation (for victims) and social cognitions supporting aggression (for aggressors). Similarly, although not specifically about bullying, Guerra et al. [2003] and Musher-Eizenman et al. [2004] found a significant relationship between exposure to community violence and aggressive behavior mediated by normative beliefs supporting aggression. It is likely that those who are exposed to violence in their community learn that aggression, including bullying, is a legitimate way to reach personal goals [see also Espelage et al., 2000].

Although those studies imply that bullying could be higher in areas where children are exposed to community violence, as far as we know this has not been directly confirmed. Furthermore, it is not clear whether such relationship could also be found among children exposed to political violence. Political violence is usually justified by the belief that violence is a legitimate way to reach socio-political goals. It is likely that children in contexts of political violence might learn such belief and apply it to their own relationships, resulting in higher levels of bullying in areas with higher levels of political violence.

This study sought to explore these relationships in Colombia, a country where some regions are more exposed than others to a decades-old-armed conflict among left-wing guerrilla groups, right-wing paramilitaries and the national-armed forces. Since 2003, all 5th- and 9th-grade students from all public and private schools in Colombia take a citizenship competencies test sponsored by the Colombian Ministry of Education and designed by a team lead by one of us (EC). In the 2005 test, three questions about bullying were included among those that a representative random sample of students from the whole country responded to. These data represent a unique opportunity to analyze bullying at a national level and to explore its relationships to larger socio-economic and socio-political contextual variables. Furthermore, since all students responded the questionnaire in the same language (Spanish), there was no concern about comparing reports from different languages [Smith et al., 2002]. By analyzing these data, this study sought to fill some of the voids in our understanding about contextual factors related to bullying. In particular, it sought to identify which socio-emotional, family and school variables, as well as which contextual factors such as poverty, inequality, community violence and political violence, explain variance in bullying between schools and between regions of a large country.

METHODS

Participants

Participants were all 5th- and 9th-grade students whose schools were randomly selected to take a specific version of the Colombian citizenship competencies test, which included three questions about bullying. This random sample was constructed in two steps (first municipalities and then schools within those municipalities) and is representative for 30 of the 32 departments in Colombia (most schools in the other two departments did not take this version of the test since they have a different school calendar). This final sample consisted of 53.316 students (5% of the Colombian student population in these grades; 28.933 in 5th grade and 24.383 in 9th grade) in 1,000 schools (4.3% of all Colombian schools) in 308 municipalities (30.5% of all Colombian municipalities). Mean age was 11.1 for 5th graders and 15.0 for 9th graders. Females represented 54.3% of all participants. Most participants (74.7%) came from urban settings and most (70.8%) were in public schools.

Measures

All measures, except for the municipal variables, were part of the Colombian National Test of Citizenship Competencies. Given that the test is taken by all 5th- and 9th-grade students in Colombia, it needed to be very short. Furthermore, it was not developed for the purpose of this study, but to give information to each school and to the whole country about the student's level of citizenship competencies. For these reasons, only very few items were available for the construction of each of the following measures.

Bullying

In order to make the questions as simple as possible to students from many different regions and with very diverse levels of language skills, a case was developed by Velásquez and Chaux (unpublished) to illustrate bullying in concrete terms. In addition, no word representing the term bullying was used since most students and teachers in Colombia still do not know the concept.[1] As only three items were available, it was not possible to measure different types of bullying such as relational or cyberbullying. Students read the following case of a boy victim of physical and verbal bullying (translated by us from Spanish):

> It happens to some people that others make them feel really bad because they hit them or insult them all the time. For example, Marcos is bothered very much by Fanny and Gabriel. First, they used to take away his food, and then they started taking other things from him and breaking them. Now, they push him, hit him and make fun of him. Marcos is very afraid, he feels really bad and everyday he is less and less motivated to go to school.

Then, the following yes–no questions asked for whether they have experienced (victim), done to classmates (bully) or observed among classmates (bystander) something similar to the case:

(1) During the last 2 months, something similar to what happens to Marcos has happened to you, that is, that someone hits you or insults you all the time and that makes you feel very bad and you do not know how to defend yourself?
(2) During the last 2 months, have you hit or insulted a classmate many times making him/her

[1]Some words such as *intimidación*, *matoneo* and *acoso escolar* have been used by academics, the media, NGOs and the government, but not by the general public.

feel very bad and he/she does not know how to defend his/herself?
(3) During the last 2 months, have you seen a classmate being hit or insulted all the time, making him/her feel very bad and he/she does not know how to defend his/herself?

At the individual level, these items are not supposed to underlie a common construct. This is the main reason why the individual level was not considered in the study because using only one of the items (e.g., self-report of bulling classmates) would have meant not only having an unreliable one-item measure but also losing information from the other informants (e.g., victims and bystanders). However, at the school level, when averaging across reports from all students in each school, each average becomes an indicator of the level of bullying in that school. Correlation between them are all significant at the $P<0.001$ level (.374 between victim and bully perspectives; .279 between victim and observer perspectives; .415 between bully and observer perspectives). A school-level measure of school bullying was constructed with a factorial weighted average of these three indicators. The consistency of this measure was low but satisfactory (Cronbach's α calculated with schools as the unit of analysis = .61).

Socio-Emotional Competencies

Empathy (α with schools as the unit of analysis = .64) was measured with five items selected from a larger instrument [Chaux et al., unpublished].[2] Each item asks about the emotions the participant usually feels when something occurs to a classmate (e.g., "When a classmate is sad because she/he does not have someone to be with, do you feel bad?"; response options: "Always/many times/sometimes/never").

Anger management (α with schools as the unit of analysis = .75) was measured with four items developed by Daza and Mejía [2005]. Each item asked the participant to imagine that someone has done something specific to them (e.g., invented a rumor) that made them feel angry and asked whether they would be able to control their anger in that situation (response options: "Always/many times/sometimes/never").

Interpretation of intentions (α with schools as the unit of analysis = .70) was measured with two items adapted from common measures of hostile attribution bias [e.g., Crick and Dodge, 1996]. Each of the items asks participants to imagine themselves in a situation where they get hurt (e.g., someone pushes them from behind) but where the intentions of the other are not clear, and then asks whether the other did it on purpose or not (response options: yes/maybe yes/maybe not/no).

Normative beliefs supporting aggression (α with schools as the unit of analysis = .81) was measured with four items (e.g., "one has to fight so that others won't think you are a coward") selected from a larger instrument [Chaux et al., unpublished; adapted from Slaby and Guerra, 1988] (response options: completely agree/somewhat agree/somewhat disagree/completely disagree).

Trust (α with schools as the unit of analysis = .66) was measured with four items developed by Daza and Mejía [2005]. Items asked the participants whether they believe their classmates, teachers or neighbors would act in a fair and responsive way (e.g., "I trust that my neighbors would help me if I need it") (response options: completely agree/somewhat agree/somewhat disagree/completely disagree).

Family Variables

Four items measured *Family democratic and peaceful practices* within the participants' families (α with schools as the unit of analysis = .75). Each item asked for the frequency with which certain participatory (e.g., "making important decisions without asking for your opinion") or aggressive (e.g., adult hitting another) behaviors occurred at home within the last month (response options: five or more times/two to three times/once/did not occurred). Aggressive items were inverted.

Educational level of their mothers and possession of seven home appliances (e.g., "refrigerator that works") were used as proxies of *Family socio-economic conditions*.

Neighborhood violence (α with schools as the unit of analysis = .77) was measured with four questions adapted from a previous study [Chaux et al., unpublished]. They measure the number of times participants report having seen violent events in their neighborhood during the last month (e.g., "During the last month, how many times have you seen fights in your neighborhood"; response options: five or more times/two to four times/one time/never).

Municipal variables: All municipal data were compiled from different national institutions [National Institute of Statistics DANE, Geographic Institute Agustín Codazzi, National Planning

[2]The complete measure can be obtained by requesting it from the first author.

Department, National Police] by the Center for Studies on Economic Development (CEDE) at Universidad de los Andes. Level of *poverty* in each municipality was measured with the proportion of homes with at least one unsatisfied basic need (e.g., inadequate house, lack of clean water and overcrowding). *Inequality* was measured with Gini Index based on the concentration of land property. *Density* was calculated dividing population by area of each municipality. *Homicide rate* is the number of homicides per 100,000 inhabitants. *Armed conflict* was measured with an aggregate of 24 indicators of combats and violent attacks (such as politically motivated homicides, ambushes against armed forces, combats, terrorist attacks with explosives, etc.) by any of the guerrilla or paramilitaries groups. Each of the municipal variables was averaged from 2001 to 2005.

Procedure

The particular version of the test analyzed in this study was administered in October 2005 in each school directly by personnel from ICFES, the national institution for educational evaluation (other versions of the test were administered by local secretaries of education). As it was part of a national evaluation policy by the Ministry of Education, no parental consents were obtained. Responses were individual and anonymous. All students took the test on the same day.

Data Analysis

Analyses were conducted at the school and municipality levels, not at the student (individual) level. The reason for this was that bullying, the outcome variable of the study, was measured with only three questions, and only one of those questions was a self-report of bullying others. However, bullying measure becomes reliable at the school level because all students per grade (30.1 in average) are treated as informants. Therefore, the first step of the analysis was to average responses of all 5th-grade and all 9th-grade students in each school. Then, factor analyses were conducted at the school level for each of the measures and weighted averages were calculated for each of the school variables using the first non-rotated factor coefficients as weights (factor analyses are available upon request to the first author). Bivariate correlations, multiple regressions (not reported here) and ANOVAs were conducted to explore possible relationships between bullying and the other variables. Taking into account the schools within municipalities structure of the data and using the program HLM, multilevel analyses [Bryk and Raundenbush, 1992] were conducted with bullying as the dependent variable. Initially, models were constructed with municipality-level variables only and then school-level variables were included. Variables not contributing to explaining variance were removed from the models. Finally, possible mediations of the relation between municipal variables and school bullying were explored. None of these analyses confirmed significant mediations, and hence these results are not reported here. All analyses were conducted separately for 5th and 9th grades.

RESULTS

Bullying and Types of Schools

Among 5th graders, 29.1% reported having been bullied by classmates, 21.9% reported bullying classmates and 49.9% reported observing bullying among classmates during the past 2 months. Among 9th graders, 14.7, 19.6 and 56.6% reported having been bullied, bullying and observing bullying among classmates during the past 2 months, respectively. Table I summarizes a comparison of levels of bullying in different types of schools. As it can be seen, in 5th-grade bullying is significantly higher in all-boys and co-ed schools as compared with all-girls schools. In 9th grade, bullying is highest in all-boys and lowest in all-girls schools with co-ed schools in between. Furthermore, in 9th-grade bullying is significantly higher in private and urban schools as compared with public and rural schools (Table I).

TABLE I. Bullying in Different Types of Schools

	All-girls	Co-Ed	All-boys	*F*	Sig.
5th grade	$-.613^{b}$	$.216^{a}$	$.252^{a}$	19,462	.000
9th grade	$-.975^{c}$	$-.143^{b}$	$.889^{a}$	44,122	.000
	Public		Private	*F*	Sig.
5th grade	.119		.241	3,554	.060
9th grade	$-.314^{b}$		$-.028^{a}$	16,823	.000
	Urban		Rural	*F*	Sig.
5th grade	.175		.157	.083	.774
9th grade	$-.129^{a}$		$-.323^{b}$	7,613	.006

Note: Values are weighted averages (weighted with the first factor coefficients of non-rotated factor analyses) of student reports of being victims, bullies or observing bullying in their classrooms in the past 2 months. Higher values represent higher levels of bullying. Cells not sharing the same indexes represent statistical significant differences with $P<.05$ (Tukey's post-hoc for differences between all-girls, co-ed and all-boys schools).

Bivariate correlations indicated that schools with higher levels of bullying are also schools where students tend to have lower levels of empathy, anger management and trust, more beliefs supporting aggression, more hostile attributional biases, less democratic families and more violent neighborhoods (see Table II). Furthermore, school bullying is associated with greater presence of armed conflict for 5th graders and with greater socio-economic inequality for 9th graders.

TABLE II. Bivariate Correlations with School Bullying at the Municipality and School Levels

	5th grade	9th grade
Municipality level		
Poverty	.079	.055
Inequality	.035	.207**
Density	.042	.080
Homicide rate	−.027	−.039
Armed conflict	.123*	.049
School level		
Empathy	−.523***	−.616***
Anger management	−.310***	−.484***
Hostile attributional bias	.482***	.556***
Beliefs supporting aggression	.430***	.581***
Trust	−.281***	−.437***
Family democratic/peaceful practices	−.574***	−.480***
Family socio-economic conditions	−.058	.027
Neighborhood violence	.489***	.419***

Note: $^{*}P<.05$; $^{**}P<.01$; $^{***}P<.001$.

Multilevel Analyses

The first step of a multilevel analysis is the identification of the variance to be explained at the different levels of analysis. In the unconditional models, 98.3 and 90.9% of the total variance was found at the school level in 5th and 9th grades, respectively (for 5th grade: 1.7% at the municipality level; $\tau = .017$; $\sigma^2 = .970$; for 9th grade: 9.1% at the municipality level; $\tau = .082$; $\sigma^2 = .821$).

Municipality-level variables were entered first in the multilevel analyses. As summarized in Table III, the presence of armed conflict was the only municipality-level variable in 5th grade, explaining variance in levels of bullying and inequality was the only one in 9th grade. However, in both cases, the percentages of variance explained were less than 1%. The amount of explained variance increased substantially when school-level variables were entered into the models, increasing to 52% for 5th grade and 54% for 9th grade (Table IV). Empathy, interpretation of intentions, democratic families and percentage of girls in the school were significant predictors of less bullying in both 5th and 9th grades. Better family socio-economic conditions, more exposure to

TABLE III. Final Multilevel Models Explaining School Bullying

	5th grade						9th grade					
	Municipality level			Both levels			Municipality level only			Both levels		
	Coefficient	*t*	*P*	Coefficient	*t*	*P*	Coefficient	*t*	*P*	Coefficient	*t*	*P*
Municipality-level predictors												
Intercept	.153	4,209	.000	.481	4,170	.000	−.267	−5.95	.000	.120	1,109	.269
Poverty	–	–	–	–	–	–	–	–	–	–	–	–
Inequality	–	–	–	–	–	–	.084	1,755	.080	–	–	–
Homicide rate	–	–	–	–	–	–	–	–	–	–	–	–
Armed conflict	.032	1,709	.088	.028	2,323	.021	–	–	–	–	–	–
Density	–	–	–	–	–	–	–	–	–	–	–	–
School-level predictors												
Urban versus rural				–	–	–				.236	3,970	.000
Girls (percentage in school)				−.342	−3,363	.001				−.585	−8,193	.000
Private versus public				–	–	–				–	–	–
Democratic/peaceful families				−.325	−7,027	.000				–	–	–
Family socio-economic conditions				.140	4,122	.000				–	–	–
Neighborhood violence				.142	3,690	.000				.195	5,504	.000
Beliefs supporting aggression				–	–	–				.263	5,001	.000
Empathy				−.276	−6,020	.000				–	–	–
Anger management				–	–	–				–	–	–
Trust				–	–	–				–	–	–
Hostile attributional biases				.246	7,814	.000				.260	6,673	.000
τ		.020			.016			.088			.017	
σ^2		.965			.451			.814			.450	
% of total variance explained		.25			52.72			.07			48.28	

neighborhood violence and less anger management competencies significantly predicted more bullying in 5th grade. Armed conflict continued being a predictor of more bullying in 5th grade when school-level variables were included, but inequality ceased being a significant predictor in 9th grade (see Table III).

DISCUSSION

The level of school bullying in a large and diverse country such as Colombia varies greatly from one place to another. However, as this study shows, differences in bullying between schools of the same municipalities are much larger than differences between municipalities. That is, variance is really at the school level, or at a lower level such as the classroom or the individual student and not at the municipality level. Despite the strong cultural, socio-economic and political differences between Colombia's more than 1,000 municipalities, municipalities are very similar in their levels of bullying in comparison to how different schools within municipalities are. In the end, this brings hope to reducing school bullying as it indicates that change is within reach of schools. The fact that bullying levels seem to differ greatly between schools sharing similar larger contextual conditions suggests that variables accounting for these large differences are from the proximal context of schools. That is, they are variables which schools should be able to have an impact on.

Several emotional and cognitive variables were significantly associated with school bullying. Some of them (i.e., empathy, beliefs supporting aggression and hostile attributional biases) predicted school bullying over and above all the demographic, family, school and municipal variables. This suggests that developing cognitive and emotional competencies related to these variables could contribute to reduce school bullying. For example, promoting critical thinking could contribute to put into question socially accepted beliefs supporting aggression; perspective-taking development can contribute to reduce hostile attributional biases; and empathy development can reduce emotional insensibility that bullies and bystanders frequently feel toward victims of bullying.

This study does not allow differentiating between individual, classroom or school levels because all student data were aggregated at the school level. It is therefore not clear whether the protective effect of competencies is due to its specific relation to the behavior of potential bullies or victims, or whether it is more related to higher-level variables such as classroom or school climate, or both. In any case, this study adds evidence to the relevance of these variables in preventing bullying.

Some of the existing anti-bullying programs, such as the Olweus whole-school program focus most of its attention on creating awareness, norms and mechanisms for adult supervision [Olweus, 2004]. This is important. However, studies like this suggest that it is also crucial to place much effort in helping students develop cognitive and socio-emotional competencies that could help them prevent bullying, even when adults are not watching. Other existing programs, such as the Sheffield project [Smith et al., 2004] or the SAVE project [Ortega et al., 2004] have included training in competencies such as empathy or assertiveness, but frequently only for victims or bullies. In contrast, newer programs such as KiVa [Kärnä et al., 2009; Salmivalli et al., 2009a,b] or our own *Aulas en Paz* [Chaux, 2007; Chaux et al., 2008] are putting a much greater emphasis on competencies development for all students, especially for bystanders. Hopefully, this larger emphasis on students' competencies could help improve the low impact that several evaluations are showing for existing programs [e.g., Bauer et al., 2007; Merrell et al., 2008].

Bullying was found to be higher in private as compared with public schools. This raises new questions such as: what is it about private schools that leads to higher levels of bullying? The fact that its effect disappears when other variables are included in the model suggests that differences between private and public schools in those variables might explain its effect. However, there is a large diversity among private schools. Although almost all public schools target lower income families, private schools, which represent almost a third of all Colombian schools, range from religiously-based charity schools to international elite schools. These large differences need to be taken into account before explaining why bullying was higher among private schools. Furthermore, it is not clear whether differences between private and public schools are due to more awareness and visibility about bullying in private schools. Bullying has been frequently portrayed in the Colombian media and several of the highlighted cases have been from private schools. Whether higher levels of reported bullying among private schools actually reflect higher levels of bullying experienced by the students needs to be confirmed in future research.

Similarly, 9th-grade students in urban schools reported higher levels of bullying than those in rural schools. At this point, it is not clear what explains this difference. Dropout rates are higher among rural as compared with urban schools [Fernandes, 2006], and aggressive students are more likely to leave schools than non-aggressive ones [Cairns et al., 1989]. This means that urban schools possibly have higher rates of students with aggressive behaviors, especially in higher grades where many students with behavioral problems may have dropped out already. However, it could also be that bullying is higher in urban schools because these schools are larger, with more students per classroom, and with more exposure to youth gangs and urban crime than rural schools.

Differences found between all-girls, co-ed and all-boys schools need to be considered with caution. The instrument measuring bullying referred to repeated instances of physical and verbal aggression only, leaving aside relational, indirect and social aggression, which are known to be the preferred forms of aggression among girls [Björkqvist et al., 1992; Crick and Grotpeter, 1995; Galen and Underwood, 1997; Salmivalli and Kaukiainen, 2004]. In addition, the case presented in the questionnaire was of a boy being victim of bullying. Therefore, it is not clear whether lower levels of reported bullying in all-girls and co-ed schools are because bullying is in fact lower in those schools or because many girls did not feel the questions were about the types of bullying they experience.

Bullying was lower in schools where students report having families more democratic and peaceful families. This result is consistent with previous studies, finding associations between school bullying and authoritarian parental styles [Baldry and Farrington, 2000] and exposure to domestic violence [Baldry, 2003]. This highlights the relevance of including family components in interventions against school bullying. Several programs include talks and workshops for parents [e.g., Pepler, 2004]. However, frequently parents who need more support usually do not attend those activities. For this reason, several programs have had great success including home visits for those who needed the most [e.g., Chaux, 2007; Conduct Problems Prevention Research Group, 2002; Tremblay et al., 1995]. Home visits might be a necessary component in order to create school–family collaboration essential to prevent bullying.

Municipality-level variables contributed only a small fraction to the explanation of bullying. However, it was interesting that the only variables predicting higher levels of school bullying were the presence of armed conflict and economic inequality. As far as we know, this is the first time that these larger contextual variables have been associated with school bullying. The first of these results adds evidence to the existing literature of the possible effects of political violence on children [e.g., Garbarino and Kostelny, 1996; Ladd and Cairns, 1996; Liddell et al., 1994; Macksoud and Aber, 1996; Punamäki et al., 2004]. Living in areas where armed groups have been fighting with one another for years may have: 1) strengthened the idea that aggression and violence is a legitimate way to reach one's goals; 2) desensitized many about the pain victims of violence feel; and 3) created the sense that hurting others is not morally wrong but could in fact be the correct way to bring changes. All of this may have contributed to create a climate where systematically using aggression against certain classmates as a way to reach personal goals becomes acceptable.

Economic inequality, measured as unequal distribution in land property, was associated with school bullying among 9th graders. Economic inequality usually implies power imbalances and dominant relationships between those who have more and those who have less. It is possible that children and adolescents growing in social contexts with large power imbalances develop peer relationships which mimic the unequal relationships they see among adults. This might be reflected in higher levels of bullying, which results from power imbalances in relationships. On the other hand and in congruence with some studies [e.g., Borg, 1999; Rigby, 2004] but not with others [e.g., Khoury-Kassabri et al., 2005; Pereira et al., 2004; Wolke et al., 2001], poverty was not related to bullying, neither at the municipal level, nor at the school level. Furthermore, the only relationship found between affluence and bullying was that, among 5th graders, when controlling for the effect of other variables in the model, bullying was higher in schools with students reporting better family socio-economic conditions. Therefore, this study adds evidence to others [e.g., Fajnzylber et al., 2002], showing greater effects on violence of inequality than of poverty.

Although these relationships between school bullying and the larger socio-economic and socio-political context are interesting, substantially more research is needed to understand them better. For example, it might be interesting to explore specific mechanisms by which the larger context could have an impact on school bullying. The differences found in this study between 5th and

9th grades suggest that these processes might be different among children and adolescents. Possible mediation pathways were explored but not confirmed in this study. More qualitative and quantitative studies are needed to explore these issues more deeply.

This study has several limitations that need to be acknowledged. First, the test included only a few items for each one of the measures. Although averaging the answers of all students within each grade within each school leads to more reliable measures, those new measures are very much influenced by the specific questions asked. For instance, bullying was measured with only three questions based on a short case of physical and verbal bullying. Questions did not include other types of bullying, such as relational, or cyberbullying. Results are therefore limited to physical and verbal bullying, that is, to more direct forms of bullying. Similarly, only one of the three bullying questions is a self-report of bullying others. For this reason, an individual measure of bullying could not be constructed excluding the possibility of including the individual level in the multilevel analyses. Also, except for the municipal variables, all measures are based on the report of students and therefore have a shared method variance. Finally, it would have been interesting to include more school-level predictors, such as school climate.

In spite of these limitations, the study makes a contribution to our understanding of school bullying dynamics by taking into account the larger contexts in which it is embedded. In the end, however, it comes back to the need of highlighting the relevance of proximal variables, which school-level programs should and could have an impact on, even in violent and unequal environments.

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