Bullying in public and private schools: the effects of gender, race, and socioeconomic status*

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Abstract

This article explores the effects of social markers of gender, race and socioeconomic status (SES) on bullying among 9th-grade students in Brazil. The aim is to investigate whether students from privileged social groups within the social hierarchy (i.e., men, white individuals, and those of higher SES) exhibit higher rates of bullying perpetration, and conversely, whether students from disadvantaged social groups (women, black individuals, and those of lower SES) are more likely to be victims of these acts. We analyzed data from the 2015 National Survey of School Health (PeNSE) through Hierarchical Generalized Linear Models (HGLM) adjusted separately for public and private schools and for different types of student involvement with bullying: as victim, aggressor, or victim-aggressor. The results indicate that, only as to SES, we can state that bullying reproduces the status hierarchy found in society. In both public and private schools, students with a higher SES are more likely to bully someone, while students with a lower SES are more likely to be bullied. As for gender, it is observed that male students are more prone to be involved in bullying than female students, whether as a victim, aggressor, or victim-aggressor. Differentials are more significant in private schools than in public schools. As for race, it is observed that acting like a bully permeates racial groups in multiple ways.

Keywords

Bullying – Schools – Elementary school – Violence at school.

Introduction²

The school is a social institution responsible for a considerable portion of the socialization process of practically all children and adolescents. In this setting, social interactions and learning occur in multiple ways, involving all social actors that compose the school environment (teachers, students, personnel, family members, the surrounding community). In this context, several negotiations are carried out on a daily basis, and conflicts often arise in various circumstances (Bourdieu, 1998).

Students, in constant interaction, bring with them a set of their own characteristics and previous experiences and social relations. They are sociocultural subjects developed in specific ways and marked by diversity. In this plurality of subjectivities, it is natural that conflicts arise. However, often, unlike specific situations of impasse, what is observed is the establishment of true contexts of violence and oppression in schools (Debarbieux, 2001).

Among the wide range of violent situations that can have the school as a locus— verbal and physical assault, vandalism, robberies and thefts, institutional violence, discrimination, among others—, bullying stands out for its practically widespread propagation (Menesini; Salmivalli, 2017) and for the media visibility it gains when it leads to tragic outcomes.

Bullying is characterized by a set of aggressive behaviors, which can be expressed in different ways. Such behaviors are repetitively engaged over time, by one or more students against others, and are characterized by an imbalance of power between aggressor and victim, causing humiliation, distress, and exclusion (Dake; Price; Telljohan, 2003; Malta *et al.*, 2010; Olweus, 1997).

Although bullying often goes unnoticed by teachers, principals and parents, it produces devastating consequences, such as difficulty concentrating, low self-esteem, anxiety, depression, suicidal ideation, suicide attempt, consummate suicide, self-harm, and psychological stress (Mello *et al.*, 2016). Both aggressors and victims can also have worsened school performance (Dake; Price; Telljohan, 2003).

Another possible consequence is the increased chances that a bullying victim will become the perpetrator of violent acts such as school shootings or massacres. In this case, we remain cautious when mentioning such association, because, despite being a widespread hypothesis in public opinion³, there is little empirical evidence that, in inferential models, having been bullied is sustained an explanatory factor for school massacres in relation to other aspects such as access to firearms, prior victimization outside school, and emotional and psychological issues (Mears; Moon; Thielo, 2017).

Therefore, understanding the bullying phenomenon as one of the forms of violence in school, we propose to take it as an object of research. More specifically, we intend to

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2- A preliminary version of this article was presented at the 20th Brazilian Congress of Sociology, on July 14, 2021, and at the IV Student Seminar of the Graduate Program in Sociology – PPGS/UFMG, on July 7, 2021. We are grateful for the comments and contributions of those present in both events.

3- An example is the case of the 14-year-old student who, in 2017, opened fire on colleagues at the private school he attended in the capital of Goiás, killing two adolescents and injuring four others. At the time, based on reports, the main motivation for the crime was indicated to be previous bully against the shooter. Learn more at: https://g1.globo.com/goias/noticia/adolescente-suspeito-de-matar-a-tiros-dois-colegas-sofria-bullying-diz-estudante.ghtml

determine if—and, if so, how—bullying reproduces the status asymmetries and hierarchies present in society. That is, the extent to which the involvement of young people who occupy positions of privilege in social status hierarchies differs from the involvement of those who are in disadvantaged positions in these same hierarchies.

Academic research on bullying is generally concentrated in the fields of Psychology and Public Health. In these fields, research tends to focus on the power imbalance between aggressors and victims based on individual characteristics, such as physical strength, popularity, self-confidence, intelligence, and physical attractiveness, among others (Nelson *et al.*, 2019; Olweus, 2013). However, in this article we propose an innovative perspective, assessing the extent to which social markers that reflect power hierarchies established in society are related to bullying.

To this end, we investigated how the socioeconomic status (SES), race and gender dimensions relate to this phenomenon and sought to answer the following questions: 1) Does the power imbalance between bullying aggressors and victims reproduce the status asymmetries and hierarchies present in society?; and 2) How do these measures (SES, race and gender) relate to the phenomenon, in public and private schools, considering the profiles of both aggressors and victims?

Social inequalities, power, and school institutions

Rothman (2016) points out that many of the advantages, rewards and benefits of life in the modern world are shaped by the individual's position in the social structure. Three factors stand out as the main conditions, namely: social class, understood as the individual's position in the economic system; ethnic/racial group to which they belong; and gender. Grusky and Szelényi (2018) point out that many socially valued assets, such as money, knowledge and political power, begin to be acquired automatically by some individuals within the family, while they are denied to others from a very early age. Thus, the individuals' conditions at birth (family SES, gender, and race) influence the subsequent social position.

Despite the recent implementation of several affirmative and social inclusion policies in Brazil[4], individuals from impoverished backgrounds, blacks and women continue to occupy positions of inferiority in the social structure and face obstacles to social mobility (Guimarães, 2021; Mont'Alvão, 2011; Picanço; Morais, 2016; Ribeiro, 2006). This occurs due to disparities in opportunities observed from early childhood, particularly concerning educational outcomes and trajectories (Soares; Alves; Fonseca, 2021).

Beyond the moral issue posed by Brazil's enormous social inequality, there is also concern about the profound consequences it generates for individuals in socially disadvantaged positions and society as a whole. For example, poor school performance/ achievement, high rates of violence and crime, and precarious access to the healthcare

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4- As examples, we mention the Bolsa Família, Financiamento Estudantil (FIES), and *Universidade para Todos (PROUNI)* programs, the policy of reserving places in universities for students from public schools, blacks and indigenous people, quotas for women in political parties and policies to prevent violence against women.

system, among others (Arretche, 2015; Medeiros; Barbosa; Carvalhaes, 2020; Pero; Szerman, 2008; Scalon; Salata, 2012; Senkevics; Carvalhaes; Ribeiro, 2022).

In this sense, we understand that Pierre Bourdieu (2010) adopts an approach that is adequate to understand the relationships established between individuals in an unequal society such as Brazil. The author analyzes the objectivity behind the subjectivity of domination relations determined by social class, race, and gender, among others. Investigating the fundamentals of male domination, Bourdieu (2010) points out that it is presented as neutral, introjected into an objectified state in things and in the division of labor. Embodied in the *habitus*[5] and bodies of agents, biological difference is seen as a natural justification for socially-built difference. If *habitus* reproduce this division, providing dichotomized worldviews, it is due to a huge collective work of diffuse and continuous socialization.

According to Bourdieu (2010), structures of domination are the product of an incessant work of reproduction fed by specific agents, such as men, whites and members of the elites, as well as by institutions such as the family, the school, the State, and the church. The symbolic force of these agents acts invisibly and cunningly directly on bodies, through the predispositions placed on them. Symbolic violence is only possible to the extent that it acts through the dispositions modeled by the structures of domination, that is, by the very inscription of social structures on the bodies of agents, of both the dominated and the dominant (Bourdieu, 2010).

This theory helps us understand why the victims of the various relations of domination often fail to break the cycles of oppression. Bourdieu (2010) points out that the dominated themselves apply, to the relations of domination, explanatory categories built from the point of view of the dominant, through a certain "spontaneous" adherence granted to the dominant.

As for education, the Bourdiesian theory explains how the student's *habitus* affects their school trajectory. Those who have the upper class *habitus* learn school content more easily, since they get familiar – still in the family environment – with the mastery of formal language, reading habits and appreciation of cultural goods; therefore, they have greater cultural capital. On the other hand, students who have the lower class *habitus* have greater difficulty in dealing with the content taught at school, since they have not undergone such processes of cultural capital accumulation in the family environment. Therefore, children of the elites already enter the school institution having a "cultural privilege" in relation to the children of the lower classes (Bourdieu, 1998).

Since the *habitus* of the dominant group is overvalued and rewarded by teachers in everyday school routine, we are led to question whether it would also be valued by the students themselves in their daily interactions. Thus, those who are part of dominant groups would be in a position of greater power in the symbolic struggles of the school context, while the students of the dominated groups would be in a position of disadvantage.

5- *Habitus* are systems of acquired dispositions, sets of durable dispositions that inform social practices, but which are also produced throughout them. Bourdieu (2007) also wrote about "class *habitus*," which is the embodied form of the class condition and of the conditionings it imposes.

Hence, the question that arises is: would the former, because they have greater power, be potential bullying offenders and would the latter be preferential victims?

Violence and bullying in schools

Violence is a sociocultural phenomenon that affects all of society, institutions, social groups and subjects and, therefore, must be addressed holistically (Mello *et al.*, 2016). The extent to which different social groups are affected, however, is not evenly distributed in society. Some groups, such as blacks, people of lower socioeconomic status and homosexuals, are more affected by violence in general and by school violence, which can be influenced by social and racial prejudice and discrimination (Stelko-Pereira; Williams, 2010).

The violent behavior exhibited by some students in schools results from their individual development, as well as from interactions within social groups such as family, community, and the school itself. Since all these contexts are permeated by processes of exclusion, prejudice, beliefs and competitive and exclusionary values, students often reproduce these distortions in the school environment, thereby leading to situations of school violence and bullying (Mello *et al.*, 2016).

Olweus (1997) characterizes bullying victimization as exposure to negative actions repeatedly and over time from one or more people. These negative practices comprise any intentional action that causes harm, injury, or inconvenience to another person. They can manifest as words (threats, derision, name calling), characterizing *verbal bullying*; as physical contact (hitting, pushing, slapping, pulling hair, pinching, preventing the passage of others), characterizing *physical bullying;* or as a more subjective and insinuating means (obscene gestures, exclusion, spreading rumors about the victim), which characterizes *social bullying.* More recently, the bibliography on the phenomenon also includes cyberbullying, which comprises bullying in digital media, especially on social networks (Bauman, 2013).

In Brazil, the largest systematic diagnosis that contemplates the phenomenon is the National Survey of School Health (PeNSE), an investigation carried out by the Brazilian Institute of Geography and Statistics (IBGE), in partnership with the Ministry of Health, which has four editions already, in 2009, 2012, 2015, and 2019[6]. Throughout its editions, PeNSE found increasing rates of bullying victimization among Brazilian students – 5.4% in 2009, 7.2% in 2012, 7.4% in 2015, and 23%[7] in 2019.

Other important surveys have been conducted in Brazil in recent years. A 2012 survey by the Center for the Study of Crime and Public Security of the Federal University of Minas Gerais (CRISP/UFMG) found that, in Minas Gerais, in the state educational system, 16% of students suffered bullying and 9.6% practiced bullying (Silva, 2014). An investigation in the city of São Paulo in 2017 found 28.7% of victims and 15.3% of perpetrators (Peres *et al.,* 2018). Marcolino *et al.* (2018), when researching the phenomenon among elementary

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[6] - At the time of preparing this article, the 2019 PeNSE microdata had not yet been released by IBGE.

[7] - This significant increase is justified, in part, by a change in the scale of answers to the question. In the 2015 edition, the answer options were Never, Rarely, Sometimes, Most of the time, and Always. In the 2019 PeNSE, the options were None in the last 30 days, 1 time, and 2 or more times.

school students from municipal schools in Campina Grande (PB), found a victimization rate of 29.5%. Regarding practice, 8.4% of students were characterized as aggressors.

The bibliography associates bullying practice with several socioeconomic and demographic factors (age, sex, SES, etc.), psychological factors (loneliness, not having friends, insomnia), family situations (living or not with parents, absence of family supervision, family violence, missing classes), and risky behaviors (use of psychoactive substances). Some of these factors are understood as protective and others as inducers of the chances of practicing bullying (Oliveira *et al.*, 2018; Mello *et al.*, 2017). Considering our interest in the relation of this phenomenon with the social markers of inequality, we briefly discuss, below, studies that investigate the associations of socioeconomic status, race and gender with school experiences in general and bullying more specifically.

The associations of SES, race and gender with bullying

Brazil is a country marked by high levels of social inequality, as demonstrated by studies that indicate that young people from high social classes are more likely to reach high educational levels than those from lower social classes (Mont'Alvão, 2011; Ribeiro, 2006; Senkevics; Carvalhaes; Ribeiro, 2022). Inequalities in educational opportunities, especially in the early years of the educational trajectory, become even more evident when they articulate race and social class, greatly affecting black people and people with low SES (Ribeiro, 2006; Soares; Alves; Fonseca, 2021).

The relation between student SES and bullying is controversial in the bibliography. Olweus (1998) and Sourander *et al.* (2000 *apud* Dake; Price; Telljohan, 2003) found no significant association. Both studies analyzed students aged 8–16 years; the first in Norway and the second in Finland. Wolke *et al.* (2001 *apud* Dake; Price; Telljohan, 2003), when analyzing primary school students in England and Germany, found a positive association between low SES and bullying practice. A study conducted in 2011 in schools in the Buenos Aires metropolitan area concluded that bullying is more present in private schools (D'Angelo; Fernandez, 2011). The 2015 PeNSE found that, in Brazil, bullying practice is more present in private schools, while bullying victimization by is more reported in public schools (IBGE, 2016).

Silva and Costa (2016) found a positive association of bullying practices with both high SES and high maternal education for students from Minas Gerais. When looking for the factors associated with bullying in the 2015 PeNSE data, Mello *et al.* (2017) also found that the practice was more frequent not only among private school students, but also among those whose mothers have higher educational levels. However, the study of Mello *et al.* (2017) found no effect of SES for different samples of public and private schools, which in this article we seek to examine.

As for race[8], whites and blacks have different performances, with disadvantage of black population, in several indicators of social inequality in Brazil. The average income

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8- The racial identification information we worked with was obtained using the question "What is your color or race?," followed by the answer options: White, Black, Asian (*Amarelo*), Mixed-race (*Pardo*) and Indigenous. Therefore, although the data are partially originated in the native category

of blacks corresponds to less than half of the average income of whites; the illiteracy rate is much higher among blacks than among whites; blacks have, on average, 2 to 2.5 years less education than whites, in addition to lower rates of schooling (Ferraro, 2010). They are also less likely to complete educational transitions successfully, especially the higher transitions of the educational system, such as completing high school, entering university and completing higher education (Mont'Alvão, 2011; Ribeiro, 2006). Given such racial inequality as to schooling, it can be expected that young white or black individuals have different experiences in the educational system also as to violence.

Batista (2013), analyzing bullying among 6th-grade students at a state school in Campinas (SP), found ethnic-racial prejudice in the relationships between them. Mello *et al.* (2017) observed, through multiple logistic regression analysis with data from the 2015 PeNSE, that the practice was more frequent among black and Asian (*Amarelo*) students. These same students were also the ones who suffered bullying victimization the most, according to the 2012 PeNSE data selected only for the Southeast region (Mello *et al.*, 2016). Some authors (Juvonen; Grahan, 2014; Silva *et al.*, 2018) point out that the reduced number of students of a certain ethnicity/skin color causes a power imbalance that can lead them to become preferential victims of colleagues who represent the numerical majority. Therefore, we believe that a school's racial composition can affect the occurrence of bullying, which should be considered in the analysis. Accordingly, we examine not only the relation between race and bullying, but also the effect of racial composition on the phenomenon.

As for gender[9], women were, throughout much of the history of the Western world, systematically relegated to the domestic sphere and, therefore, took longer than men to access formal education. In the Brazilian context, men surpassed women in educational levels until the mid-20th century. However, from the 1950s/1960s, there was a historical inversion in the relation between sex and schooling in the country (Rosemberg; Amado, 1992), with women having increasingly higher average years of education compared to men (Ferraro, 2010). Before the Covid-19 pandemic, access to education for children aged 6 to 14 years in Brazil was practically universal for both sexes (IBGE, 2023).

Boys and girls are involved in different ways with episodes of violence in schools and, specifically, with bullying. The higher prevalence of boys among aggressors is indicated by several national and international studies (Mello *et al.*, 2017; Oliveira *et al.*, 2018; Olweus, 1998; Silva; Costa, 2016; Peres *et al.*, 2018). As for victimization, there is no consensus in the bibliography. In Mello *et al.* (2016) and Marcolino *et al.* (2018), boys appear as the most frequent victims of bullying compared to girls. In Peres *et al.* (2018), no significant differences were found. The 2019 PeNSE, in turn, found higher levels of victimization among girls (26.5%) than among boys (19.5%) (IBGE, 2021).

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of color, we work with the analytical category of race, which goes beyond phenotypic perceptions and contemplates the social constructions developed around racial identities.

9- Although demographic surveys in general – including PeNSE – include questions related to people's sex, not gender, many researchers prefer to work with the category of gender. Because gender also incorporates the social aspects (behavior, personality, social norms, etc.) that permeate one's social presentation as male or female. Therefore, in this article, we worked with the variable of gender, but we introduced the analytical category of gender, overlapping biological determinisms in explaining the discrepancies between the involvement of boys and girls with bullying.

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Considering the above, we then sought to test the following hypotheses: 1) The higher the individual's SES, the higher the probability of practicing bullying and the lower the probability of being a victim of bullying; 2) Compared to non-white students, white students are more likely to practice bullying and less likely to be victimized by bullying; and 3) Being a man, compared to being a woman, has a positive impact on bullying practice and a negative impact on bullying victimization.

Data and methodology

The data were obtained from the 2015 National Survey of School Health (PeNSE), which investigates several adolescent health risk and protection factors, with 9th-grade elementary school students. Among much information, PeNSE collects data on students' involvement with various deviant behaviors and exposure to various types of violence – such as bullying[10] – and accident risks.

PeNSE captures several sociodemographic characteristics of students, including gender and race. The SES, in turn, is measured by the consumption of durable goods and access to services at home – landline, cell phone, computer, internet access, car, motorcycle, number of bathrooms with shower (0 to 4), and presence of a paid domestic worker. For inclusion in the statistical models, we built an index through the sum of the various variables indicative of consumption and access to services, weighted by the percentage of households in the sample that have each asset. The index was standardized to range between 0 (absence of all items in the household) and 1 (presence of the maximum number of items)[11].

We know that Brazilian students are distributed between public and private schools and that students from private schools have, on average, a much higher SES than students from public schools (Brasil, 2021). Considering that this segregation can lead to differences in the dynamics of power imbalance that determine bullying in both contexts, we decided to analyze public and private schools separately.

Olweus (1998), in his investigations, found a minority group of students who were involved with bullying as victims and aggressors at the same time. He then outlined three profiles of those involved, one of aggressors and two of victims: 1) victims who present passive or submissive behavior, comprising insecure individuals who do not respond to attacks or insults; and 2) agressive-victims who tend to be provocative and combine models of anxiety and aggressive reaction. In our sample, we observed that 9.1% of those involved are victims-aggressors. Therefore, although our main focus is the contrast

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10 - In the 2015 PeNSE, bullying victimization is captured by the question: "In the last 30 days, how often have any of your schoolmates bullied, mocked, teased, intimidated, or made fun of you so much that you were hurt/annoyed/upset?" The answer options were Never, Rarely, Sometimes, Most of the time, and Always. In this article, students who answered, "Most of the time" or "Always" were considered victims. In turn, bullying practice was captured by the question: "In the last 30 days, have you bullied, mocked, teased, intimidated or made fun of any of your schoolmates so much that they were hurt, upset, offended or humiliated?" The answer options were Yes and No. Those who answered Yes were considered aggressors.

11- The formal calculation of this index is similar to that suggested by Muniz (2016, p. e71), available at: https://doi.org/10.15448/1984-7289.2016.2.23097

between victims and aggressors, we decided, following the approach of Olweus (1998), to analyze this profile separately.

Thus, for each educational system (public and private), we established three regression models – one to estimate the chances of bullying victimization, one to estimate the chances of bullying practice, and one to estimate the chances of both events simultaneously. In the models, these response variables are analyzed in relation to the variables of interest, namely: socioeconomic situation – measured by individual consumption index and school consumption index (consumption index centralized by schools) –, Sex (Male = 1, Female = 0), and Race (White, Black, Mixed-race (*Pardo*), Asian, Indigenous), in addition to school racial composition (measured by the proportion of non-white students[12]).

In addition to these variables of interest, we included several control variables indicated by the bibliography (Mello *et al.*, 2017; Oliveira *et al.*, 2018) as factors associated with bullying in schools. They are: Mother's education[13] (Unknown, No education and incomplete Elementary School, Complete Elementary School and incomplete High School, Complete High School and incomplete Higher Education, Complete Higher Education), Age (ranges from 11 to 19), Living with the mother (Yes = 1, No = 0), Living with the father (Yes = 1, No = 0), Missing classes without parental permission (At least once in the last 30 days = 1, None in the last 30 days = 0), Absence of family supervision (Never, Rarely or Sometimes = 1; Most of the time or Always = 0), Suffering family physical assault (At least once in the last 30 days = 1, None in the last 30 days = 0), Loneliness (Most of the time or Always = 1; Never, Rarely or Sometimes = 0), Insomnia (Most of the time or Always = 1; Never, Rarely or Sometimes = 0), Absence of close friends (None = 1; One, Two or Three or more friends = 0) and Drug use (Yes = 1, No = 0).

Given that the students in the samples are nested within schools and classes, each with specific institutional and contextual characteristics, we opted to use Hierarchical Generalized Linear Models (HGLMs). These regression models are designed to adjust for the multilevel data structure and estimate the likelihood of success of a certain phenomenon. When applied to the analysis of nested data, this type of modeling offers three main advantages: it facilitates a more accurate estimation of the effects of individual level variables; it enables the analysis of effects between variables at different levels, and; it allows the partitioning of the variance of the phenomenon attributable to differences between and within the groups considered (Raudenbush; Bryk, 1992)[14]. Considering that contextual elements can influence bullying practices among students, we also introduced some school characteristics into the highest level of the model. They are: School size (ranging from 1 to 6[15]), Presence of anti-bullying program (Yes = 1, No = 0), and Location in a violent area (Yes = 1, No = 0).

12- Due to the very low proportion of Asian and indigenous individuals in most of the sample strata, it was necessary to group black, mixed-race and indigenous people in this variable.

13- Although the mother's education is also commonly used as a measure of socioeconomic status, we decided not to include it as a variable of interest due to the methodological difficulty of analyzing its impact, considering that 25% of the sample did not inform this education.

14- In order to correctly estimate the hierarchical models, we eliminated from the sample a school and a class that had only one observation. After this operation, the minimum number of observations per group, both between schools and between classes, was equal to 3 in the case of public schools and 4 in the case of private schools.

15- The values represent ranges of number of students, with range 1 being "Up to 50 students" and range 6 being "More than 1,000 students."

After all adjustments, we obtained a database with 77,488 public school students distributed in 2,415 schools and 3,375 classes and 20,358 private school students distributed in 610 schools and 763 classes, totaling 97,846 students. For model estimation, we use Stata software.

The social markers of inequality and bullying

In the public schools, 3,618 students (4.7%) said they were victims of bullying, 12,617 students (16.3%) said they were aggressors, and 1,669 students (2.2%) said they were victims-aggressors. In the private schools, 850 students (4.2%) said they were victims of bullying, 3,585 students (17.6%) said they were aggressors, and 393 students (1.9%) said they were victims-aggressors. It is worth noting that these values differ from previous studies that used data from the 2015 PeNSE (Mello *et al.,* 2017; Oliveira *et al.*, 2018), due to the fact that we analyzed separately schools according to administrative dependence and the three profiles of those involved (victims, aggressors and victims-aggressors). In our view, this greater detailing of the dimensions of bullying better presents the diverse aspects of the phenomenon, which have not been studied in Brazil.

In the HGLMs, the estimation of adjusted null models enables comparing the components of variation in Y that are due to variation at level 1 (between students), level 2 (between classes) and level 3 (between schools[16]). We estimated the null models for the variation between schools and between classes, thus obtaining the partition coefficients of variance, which replace the intraclass correlation coefficient in binary hierarchical models. All coefficients were greater than 0 and presented statistical significance, which indicates that the use of hierarchical models is appropriate and indicated (Barbosa; Fernandes, 2000). The results of the models with the introduction of the explanatory variables are presented in Table 1[17].

As for gender, we found that boys are more prone to involvement with bullying than girls, whether as a victim, aggressor or victim-aggressor, corroborating Mello *et al.* (2016) and Marcolino *et al.* (2018). However, it is worth noting that the effect of gender is not similar in public and private schools. That is, considering two hypothetical students equal in all parameters evaluated, except for sex, the probability of the male student practicing bullying is 69% higher than that of the girl in public schools and 115% higher in private schools. The probability of suffering bullying is 28% higher for boys in public schools and 25% in private schools. As for being a victim-aggressor, the impact of being male is positive in 89% in public schools and 162% in private schools, compared to being female.

These findings refute our hypothesis 3, that boys would be more aggressors and less victims than girls. We understand that this is due to the fact that boys have more aggressive forms of interaction with peers than girls (Mello *et al.*, 2016; Mello *et al.*, 2017; Oliveira *et al.*, 2018; Olweus, 1998). Therefore, we cannot say that bullying expresses a power hierarchy as to gender, since boys are also the major victims. This is similar in all schools but, in general, more significant in private schools.

16- The class level was included in order to ensure the best fit of the models.

17- The models were built disregarding information on sample design and weight, since, when including them, we obtained results with absent standard errors, due to the existence of a stratum with a single sampling unit. Still, through tests, we found that this did not imply relevant differences in the coefficients and their significances.

Table 1 - Results of the regression models

Variables	Public schools			Private schools		
	Victimization	Aggression	Victimization-aggression	Victimization	Aggression	Victimization-Aggression
Individual level						
Male	1.275***	1.690***	1.886***	1.248***	2.146***	2.618***
Black	1.093	1.143***	1.288***	0.894	1.113	1.113
Mixed-race (Pardo)	0.966	1.091***	1.133*	0.999	1.187***	0.906
Asian (Amarelo)	1.053	1.270***	1.358**	0.836	1.292***	0.990
Indigenous	1.031	1.115*	1.253*	1.447**	1.096	0.900
Consumption index	0.624***	1.949***	1.705***	0.652**	1.664***	1.000
Mother's education – Unknown	0.909**	0.929***	1.065	1.061	0.827**	0.769
Complete Elementary school and Incomplete High School	1.038	0.970	1.047	0.867	0.914	0.866
Complete high school and incomplete higher education	0.831***	1.028	0.916	0.810	0.926	0.775
Complete Higher Education	1.051	0.986	0.948	1.021	0.886	0.944
Age	0.899***	0.957***	0.942**	0.887**	1.055**	0.967
Living with mother	1.052	0.984	1.010	1.249	0.909	0.759
Living with father	1.021	0.865***	0.912*	1.023	0.986	1.076
Missing classes without parental permission	1.057	1.382***	1.516***	1.045	1.336***	1.404***
Absence of supervision	0.918**	1.663***	1.394***	1.037	1.721***	1.536***
Suffering family physical assault	1.800***	1.741***	2.436***	1.884***	1.858***	2.288***
Loneliness	2.699***	1.007	1.868***	3.694***	0.916	1.910***
Insomnia	1.836***	1.125***	1.763***	1.364***	1.053	1.818***
Absence of close friends	1.672***	0.930	1.073	1.837***	0.765**	1.282
Drug use	0.696***	2.200***	1.458***	0.632***	2.243***	1.275
School level						
Proportion of non-whites	1.240	1.189**	1.401*	1.263	0.873	1.353
School consumption index	2.206**	3.017***	5.062***	0.408*	0.593*	0.365
School size	0.945***	0.979	0.976	0.851***	0.945**	0.874**
Anti-bullying program	1.024	1.102***	0.945	1.046	0.989	1.739**
Violent area	0.975	1.079***	1.111*	0.757*	1.080	1.027
Constant – student	0.128***	0.0855***	0.00657***	0.373	0.0734***	0.0206***
Constant – school	1	1.023*	1.095	1.140***	1.022	1.314**
Constant – class	1.034	1.052***	1.127	1	1.060*	1
Observations	77,488	77,488	77,488	20,358	20,358	20,358
Number of groups	2,415	2,415	2,415	610	610	610

Source: PeNSE 2015 (IBGE, 2016).
Note: Coefficients expressed in terms of odds ratios. *** p<0.01, ** p<0.05 and * p<0.1

The coefficients of the variables indicating race indicate that indigenous students in private schools are significantly more likely than white students[18] to suffer bullying


18- White skin-color is the reference category.

victimization (45%). This is consistent with the findings of Juvonen and Graham (2014) and Silva *et al.* (2018), who pointed out that numerically minority races are at greater risk of victimization. In the public schools, no racial group had significantly increased chances of suffering bullying, although blacks, mixed-race, Asian and indigenous people were more likely to be involved as aggressors and victims-aggressors. In the private schools, mixed-race and Asian had a higher chance of practicing bullying than whites. These findings were unexpected, refuting our hypothesis 2. It is worth noting the differences found between public and private schools also for the effect of race on bullying. This demonstrates the importance of considering the administrative unit when examining the phenomenon.

We also note the effect of the proportion of non-white students per school on the probability of occurring bullying. In the public schools, a higher proportion of non-whites is associated with a greater presence of aggressors and victims-aggressors. Considering that, in the public schools, black and mixed-race individuals are the majority (62.9%) compared to white ones (29%), it is possible to infer that this numerical superiority situates them in an advantageous position in some power struggles in that setting. However, in relation to the association with race, bullying seems to be a complex phenomenon that permeates racial groups in multiple ways. Therefore, in short, we cannot affirm that a racial group in a position of privilege practices bullying against a racial group in a position of disadvantage, which does not confirm our hypothesis 2.

As for the effect of SES, we found that increased consumption index reduces the chances of being a victim of bullying and increases the chances of committing bullying, both in public and private schools, validating our hypothesis 1. In the public schools, the student at the highest point of the consumption index is 62% less likely to suffer bullying and 95% more likely to practice bullying compared to the student at the lowest point of the index. In the private schools, the former student would be 65% less likely to suffer bullying and 67% more likely to practice bullying. Graphs 1 to 4 show the distributions of the average predicted probabilities of victimization and aggression by the Consumption Index, in public and private schools.

Graph 1 - Predicted probabilities of victimization by the Consumption Index – Public schools
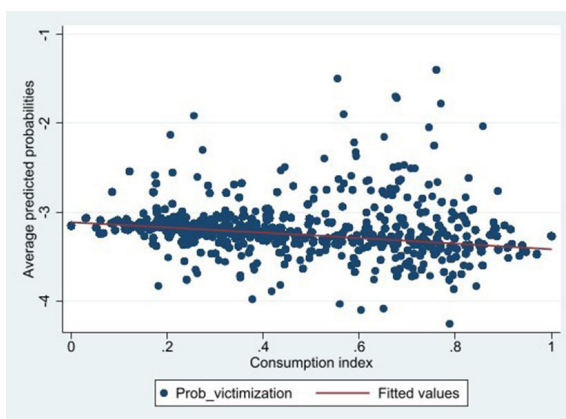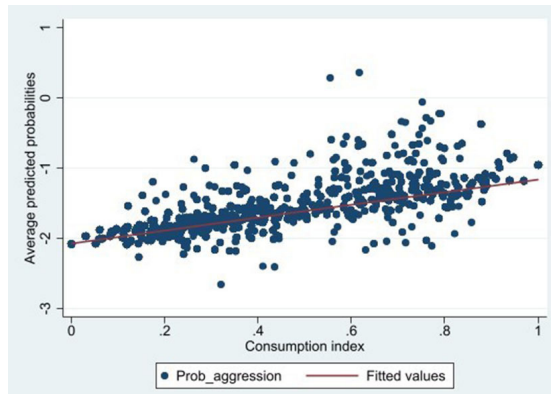

Source: PeNSE 2015 (IBGE, 2016).

Graph 2 - Predicted probabilities of victimization by the Consumption Index – Private schools
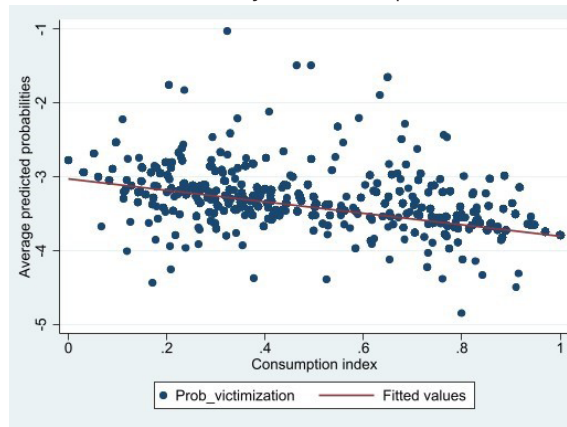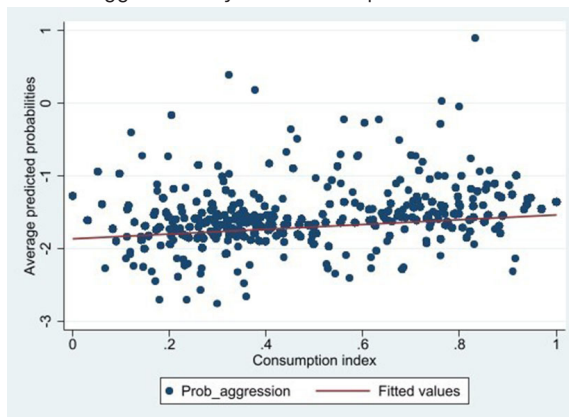

Source: PeNSE 2015 (IBGE, 2016).

Graph 3 - Predicted probabilities of aggression by the Consumption Index – Public schools

Source: PeNSE 2015 (IBGE, 2016).

Graph 4 - Predicted probabilities of aggression by the Consumption Index – Private schools

Source: PeNSE 2015 (IBGE, 2016).

These results confirm hypothesis 1, according to which, in both public and private schools, students with a higher SES are more likely to practice bullying while students with a lower SES are more likely to suffer bullying. We can take the structure of symbolic domination pointed out by Bourdieu (2010) as an important element for understanding this finding. Given that domination is embodied in the *habitus* of students from upper social classes, it is possible that they see themselves as naturally in a position of superiority in relation to the others and use the practice of bullying as one of the ways to express this superiority. If, on the other hand, students from lower social classes suffer more bullying, a possible inference would be that the "dominated" *habitus* they carry situates them at a position of disadvantage in the symbolic struggles of the school context and makes them unable to defend themselves and interrupt the cycles of domination and violence.

When analyzing the behavior of the school consumption index variable, we see that, in public schools, a higher proportion of students with high SES is strongly associated with a greater presence of bullying. In private schools, the effect is the opposite. A possible explanation would be the fact that in private schools, especially in the most elite ones (located at the highest levels of the index), in addition to having a more homogeneous socioeconomic profile, students invest more in masking violence. If in public schools events take place more overtly – in the courtyard, for example –, in private establishments, acts of violence tend to be perpetrated more discreetly and in spaces with less supervision (Camacho, 2001).

Final considerations

This article investigated how the dimensions of gender, race, and SES relate to the bullying phenomenon among 9th-grade students in public and private schools in Brazil. Based on data from the 2015 PeNSE and using statistical models that estimate the chance of success of a given phenomenon through a multilevel data structure, we examined how such factors affect the chances of suffering and practicing bullying in schools.

The results indicate that bullying does not reflect the power and status hierarchies present in society in a generalized way. It is a complex phenomenon that occurs among peers and involves several individual, psychological, contextual and social factors. Still, the results prove that, as to SES, we can say that bullying shows a structure of domination, in which students located in a privileged position in the economic structure are more likely to practice bullying, while those located in a position of economic disadvantage are more likely to be victimized.

We also emphasize that the results of the control variables introduced into the statistical models indicate several important factors that help explain bullying in schools, both at the individual and school levels. Although their effects have not been discussed in this article, they shed light on the complexity of the problem and point to interesting paths for future research. The various family, psychological and behavioral factors that showed statistical significance in the models – such as low family supervision, family physical assault, loneliness, insomnia, absence of friends, and drug use, for example – should be further explored in the future. It is also necessary to better understand the meaning behind some connections found at the school level, such as the negative association between

school size and presence of bullying and the influence of violence around schools on the phenomenon.

Some important variables highlighted in the literature were not considered in this research because they are not included in PeNSE, which is why we note them here so future surveys seek to incorporate them, enabling greater advances in the understanding of bullying. Examples of such variables are: a) among individual characteristics, the quality and durability of students' bond with colleagues and the school; and b) among student characteristics, the school climate, the behavior of institutional actors, and conflict containment methods.

Finally, we note that, although our findings demonstrate that the social markers of race and gender are not associated with bullying in a clear, significant manner, and as initially expected, it is still possible to conduct other analyses that shed light on the issue. We will seek to advance this study by addressing intersectionality, through the inclusion of terms with interaction between sex and race, for example, in addition to conducting qualitative research, in order to understand the complexities and subjectivities behind the interactions.

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