



ORIGINAL ARTICLE

Associations between child disciplinary practices and bullying behavior in adolescents[☆]

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Abstract

Objective: to investigate associations between different types of child disciplinary practices and children and adolescents' bullying behavior in a Brazilian sample.

Methods: cross-sectional study, with a school-based sample of 10- to 15-year-old children and adolescents. Child disciplinary practices were assessed using two main subtypes: power-assertive and punitive (psychological aggression, corporal punishment, deprivation of privileges, and penalty tasks) and inductive (explaining, rewarding, and monitoring). A modified version of the Olweus Bully Victim Questionnaire was used to measure the frequency of bullying.

Results: 247 children and adolescents were evaluated and 98 (39.7%) were classified as bullies. Power-assertive and punitive discipline by either mother or father was associated with bullying perpetration by their children. Mothers who mostly used this type of discipline were 4.36 (95% CI: 1.87-10.16; $p < 0.001$) times more likely of having a bully child. Psychological aggression and mild forms of corporal punishment presented the highest odds ratios. Overall inductive discipline was not associated with bullying.

Conclusions: bullying was associated to parents' assertive and punitive discipline. Finding different ways of disciplining children and adolescents might decrease bullying behavior.

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PALAVRAS-CHAVE

Bullying;
Adolescente;
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Associações entre práticas de disciplina infantil e comportamento de bullying em adolescentes**Resumo**

Objetivo: investigar a associação entre práticas parentais de disciplina e comportamento de *bullying* entre adolescentes brasileiros.

Métodos: estudo transversal, com alunos de 10 a 15 anos. Práticas parentais de disciplina foram avaliadas utilizando duas subclassificações principais: autoritárias e punitivas (agressão psicológica, punição corporal, retirada de privilégios e penalidades) e indutivas (explicações, recompensa e monitoramento). Uma versão modificada do *Olweus Bully Victim Questionnaire* foi utilizada para verificar a frequência de *bullying*.

Resultados: foram avaliados 247 adolescentes, e 98 (39,7%) deles foram classificados como agressores. Práticas parentais de disciplina autoritárias e punitivas, utilizadas tanto pela mãe como pelo pai, apresentaram associação com a prática de *bullying* pelos filhos. Mães que mais utilizavam este tipo de disciplina apresentaram chance 4,36 (IC95%: 1,87-10,16; $p < 0,001$) vezes maior de ter um filho agressor. Agressão psicológica e formas brandas de punição corporal apresentaram os maiores *odds ratio*. Disciplina indutiva como um todo não apresentou associação.

Conclusões: a prática de *bullying* apresentou associação com a disciplina parental autoritária e punitiva. A utilização de diferentes formas de disciplinar os adolescentes podem diminuir o comportamento de *bullying*.

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Introduction

Bullying is recognized as a major concern because it is associated with greater school impairments,¹ mental health problems,^{1,2} and later offending and criminality.³ Studies have demonstrated that bullies have poorer self-control⁴ and self-esteem,⁵ and lower affective empathy.⁶ These characteristics are associated with parenting as well. For example, parental attachment is associated with self-esteem, empathy, prosocial behavior, and peer attachment.⁷ Therefore, it would be expected that day-to-day parenting influences children's social competence, and thus their behavior in school.

Child disciplinary practices are a necessary part of child rearing. They involve training and helping children to develop judgment, a sense of boundaries, self-control, self-sufficiency, and a positive social conduct.⁸ For the purposes of this study, two classifications of child disciplinary practices were explored: power-assertive and punitive discipline, and inductive discipline.⁹ Inductive discipline (e.g. reasoning) is believed to help children to develop empathic skills, appealing to the child's sense of reason and fairness.¹⁰ Conversely, punitive discipline (e.g. psychological aggression, corporal punishment) is believed to foster anger and unwillingness to comply, besides providing a model of aggression.¹¹

In the field of child disciplinary practices, none is as controversial as corporal punishment. Vitolo et al.¹² found that 11.9% of Brazilian parents regarded corporal punishment as educational, and 43.3% used it as a child disciplinary practice. A broader and more recent study, with low and middle income countries (LaMICs) and the United States, observed that in Brazil, although nearly all parents use some form of nonviolent discipline, 55% had spanked their

children in the previous year, 15% had hit them with an object, and 19% had used forms of psychological violence, such as name-calling.¹³

While the association between physical abuse and bullying¹⁴ is well accepted, to the authors's knowledge, no study has yet demonstrated an association between bullying and mild forms of corporal punishment, such as spanking. The present study sought to verify associations between different types of child disciplinary practices, especially mild forms of corporal punishment, and children and adolescents' bullying behavior in a Brazilian sample.

Methods**Participants and data collection procedures**

Participants were children and adolescents from six public schools belonging to the catchment area of the primary care unit of the Hospital de Clínicas de Porto Alegre, Brazil, assessed between October of 2010 and March of 2011. In order to be eligible, participants needed to be between 10 to 15 years of age, since corporal punishment, an important variable in this study, is rarely used on adolescents older than 15 years of age.¹⁵ The only exclusion criterion inability to obtain passive consent from parents and active student assent. This study was approved by the Research and Ethics Committee of Hospital de Clínicas de Porto Alegre (n° 100010).

On the day of the data collection, students were evaluated in their classroom by two research assistants. Students were asked to sit separately, to prevent conferring or talking while completing the questionnaire, which took approximately one teaching period (50 minutes).

Measures

Bullying. A modified version¹⁶ of the Olweus Bully Victim Questionnaire¹⁷ was used to measure the frequency of bullying behavior. Students were asked to indicate how often they bullied others at school. Physical bullying was assessed with questions regarding how often they physically hurt other or took their property. Verbal bullying included name-calling, teasing in a hurtful way, or threatening. Indirect bullying included spreading rumors, not talking to someone on purpose, or excluding them from their group of friends. Questions about hurting others using the internet and mobile phones were used to measure cyberbullying. The possible answers included “Never”, “Once or twice in the previous year”, “Three to six times in the previous year”, “Many times a week”, and “Every day”. The response choices were recoded into a ratio scale reflecting the approximate number of times per year. The students were considered bullies when they committed any kind of bullying behavior at least once a week, on average. Internal consistency of the total items was considered acceptable for this sample (Cronbach’s alpha = 0.83).

Child disciplinary practices. The Dimensions of Discipline Inventory (DDI) – Child Report⁹ was used to assess the frequency of child disciplinary practices. A Portuguese version from the ongoing translation and cross-cultural adaptation study was provided by its authors. Power-assertive and punitive discipline scale encompasses 16 questions regarding psychological aggression, corporal punishment, deprivation of privileges, and penalty tasks. The DDI scale used to measure corporal punishment has four questions. However, in order to avoid confounding with what many would consider physical abuse, only two questions were used to measure mild corporal punishment: “How often did your parents spank, slap, smack, or swat you?” and “How often did your parents shake or grab you to get your attention?” The remaining two questions were categorized as harsh corporal punishment: “How often did your parents use a paddle, hairbrush, belt, or other object?” and “How often did your parents wash your mouth out with soap, put hot sauce on your tongue, or something similar?” The DDI scale to measure inductive discipline includes six questions about positive discipline, including explaining, rewarding, and monitoring, such as “How often did your parents praise you for finally stopping bad behavior or for behaving well?”

The response categories for the discipline behavior items included “Never or not in that year”; “One to two times in that year”; “Three to five times in that year”; “Six to nine times in that year”; “Ten to 14 times in that year”; “Two to three times a month”; “One to two times a week”; “Three to four times a week”; “Five or more times a week”; and “Two or more times a day”. The response choices were recoded into a ratio scale reflecting the approximate number of times per year. In the case of students who had been raised by someone other than their biological parents, they were asked to identify whom they considered their two main caretakers, and the questions were asked regarding each of them. For the remainder of the article, the terms “mother” and “father” will be used for those figures identified by the children. Cronbach’s alpha for the DDI was 0.83 for both the mother and the father.

Demographic Variables. Demographic data collected from participants included the student’s age, gender, race, number of siblings, and marital status and educational level of parents.

Statistical analysis

Continuous data are presented as median (interquartile ranges). Categorical data are presented as n (%). The frequency in the past year of each child disciplinary practice, and the group of practices that comprise the power-assertive and punitive discipline and inductive discipline scores that presented skewed distributions were categorized into quartiles of exposure; the first quartile (lowest frequency) was the group of reference for analysis. Child disciplinary practices presenting more than 50% of zero frequency were dichotomized into the presence or absence, instead of using quartiles.

Differences between bullies and non-bullies were investigated regarding sociodemographic characteristics using Pearson’s chi-squared test for dichotomous variables and using Student’s t-test for independent samples for continuous measures (or non-parametric substitutes). The main hypotheses were tested using binary logistic regression and robust estimators in order to relax the model assumptions. Independent variables were entered into two independent models – one for mothers’ and one for fathers’ behaviors – and were adjusted for gender, age, and whether the parental figure was the biological mother or father. The dependent variable was grouped (bully, non-bully). Potential confounders were defined as those associated with the outcome with p-values lower than 0.20 or by theoretical relevance. 95% confidence intervals (95% CI) were used. Statistical significance was set at 0.05 (two-tailed). The statistical software used was SPSS for Windows, version 18.0.

Results

From the 276 children and adolescents eligible to join the study, 20 (7.25%) declined invitation, and 9 (3.26%) were not authorized by their parents to participate. The final sample consisted of 247 students, from which 98 (39.7%) were classified as bullies. Bullies differed significantly from non-bullies in the fact that they were older and had identified as their father figure someone other than their biological father. The sample characteristics are depicted in Table 1. From the bully group, 52 (53.06%) admitted to bullying at least once a day, and approximately half of them within this frequency threshold were female (n = 28, 53.84%). When different types of bullying were analyzed separately, males and females did not significantly differ (Table 2).

As described in Table 3, the more frequent the use of power-assertive and punitive discipline by both mother and father, the higher the odds of the child becoming a bully, suggesting a dose-response association. Examining each specific child disciplinary practice, psychological aggression presented the highest association with bullying behavior, and it was also the most frequent practice. Forms of mild corporal punishment, such as spanking and harsh corporal punishment by mother, were also associated with bullying. Nearly half (n = 107; 43.3%) of the present sample reported having been

Table 1 Characteristics of the participants (n = 247).

	Bullies n = 98 (39.7%)	Non-bullies n = 149 (60.3%)	Statistics	p-values
Gender, male n (%)	52 (53.1)	64 (43.0)	2.04 ^a	0.154
Age, mean years (SD)	13.5 (1.1)	13.1 (1.3)	2.97 ^b	0.011
Ethnic identification n (%)				
White	69 (70.4)	93 (62.4)	0.97 ^c	0.325
Black	17 (17.3)	36 (24.2)		
Other minorities	12 (12.2)	20 (13.4)		
Number of siblings, median (p ₂₅ -p ₇₅)	2.0 (1.0-3.3)	2.0 (1.0-3.0)	0.71 ^d	0.480
Divorced parents n (%)	59 (60.2)	81 (54.4)	0.60 ^a	0.438
Father figure, n (%) ^e				
Biological father	62 (63.3)	118 (79.7)	5.12 ^c	0.025
Stepfather	23 (23.5)	17 (11.4)		
Other person	12 (12.2)	13 (8.8)		
Mother figure, n (%) ^e				
Biological mother	87 (88.8)	132 (88.6)	0.18 ^c	0.671
Stepmother	1 (1.0)	5 (3.4)		
Other person	10 (10.2)	11 (7.4)		
Mother under high school, n (%)	38 ^e (39.2)	18 (33.6)	0.58 ^a	0.446
Father under high school, n (%)	30 ^f (31.3)	53 ^g (36.3)	0.50 ^a	0.478

SD, Standard deviation; p₂₅, 25th percentile; p₇₅, 75th percentile.

^a Categorical data compared using Pearson's chi-squared test.

^b Continuous data compared using Student's *t*-test.

^c Categorical data compared using one-way ANOVA.

^d Continuous data compared using Wilcoxon-Mann Whitney.

^e Missing data in one subject.

^f Missing data in two subjects.

^g Missing data in four subjects.

corporally punished in the previous year by at least one parent, and 35.5% (n = 38) of them were corporally punished at least once a week. The non-aggressive subtypes of power-assertive and punitive discipline, such as penalty tasks and deprivation of privileges, were positively associated with bullying, especially by mothers who most frequently (top quartile) used them.

Supplementary analysis revealed that being disciplined by a father figure who was not the biological father more than doubled the odds of becoming a bully (OR: 2.21; 95% CI: 1.25-3.91; p = 0.009), but no difference was found for non-biological mothers (OR: 1.04; 95% CI: 0.46-2.35; p > 0.999).

Inductive discipline by either mother or father was not significantly associated with bullying behavior. However, the mothers' third quartile of frequency of inductive discipline did show a significant association (Table 3).

Discussion

An association was observed between the higher frequencies of power-assertive and punitive discipline and bullying perpetration in children and adolescents. All maternal power-assertive and punitive disciplines were overall statistically associated with bullying behavior by their children, as well as most of the paternal of power-assertive and punitive discipline. The inductive discipline used by both parents was not overall statistically associated with the outcome.

In this sample, females had committed physical, verbal, and indirect forms of bullying as much as males. This finding differs from another Southern-Brazilian sample, where males were more than twice as likely to be aggressors.¹⁸

Psychological aggression was the most frequent child disciplinary practice and it showed the highest association with bullying behavior. In adolescence, the use of corporal

Table 2 Differences between males and females according to different types of bullying (n = 98).

	Males n = 52 (53.1%)	Females n = 46 (46.9%)	Statistics	p-value
Physical, n (%)	13 (25.0)	10 (21.7)	0.02	0.888
Verbal, n (%)	44 (84.6)	39 (84.8)	0.00	> 0.999
Indirect, n (%)	18 (34.6)	24 (52.2)	3.40	0.122
Cyberbullying, n (%)	1 (1.90%)	1 (2.2%)	0.000	> 0.999

Note: Yates-corrected chi-squared test.

Table 3 Associations between bullying behavior and parental discipline practices.

Frequencies of Parental Discipline Practices	Mother		Father	
	Bullies (n = 98) vs. non-bullies (n = 149)		Bullies (n = 98) vs. non-bullies (n = 149)	
	OR	95% CI	OR	95% CI
<i>Power-assertive/ punitive</i>				
Bottom quartile (< p ₂₅)	ref		ref	
Second quartile (p ₂₅ – p ₅₀)	2.54 ^a	1.11-5.80	2.06	0.93-4.56
Third quartile (p ₅₀ – p ₇₅)	5.25 ^b	2.33-11.87	2.62 ^a	1.19-5.77
Top quartile (> p ₇₅)	4.36 ^b	1.87-10.16	2.82 ^a	1.33-6.22
<i>Mild corporal punishment</i>	2.60 ^b	1.50-4.49	2.29 ^a	1.28-4.14
<i>Harsh corporal punishment</i>	2.06 ^a	1.14-3.73	1.74	0.93-3.25
<i>Psychological aggression</i>				
Bottom quartile (< p ₂₅)	ref		ref	
Second quartile (p ₂₅ – p ₅₀)	4.40 ^b	1.83-10.58	1.88	0.83-4.26
Third quartile (p ₅₀ – p ₇₅)	3.94 ^a	1.66-9.33	1.73	0.81-3.69
Top quartile (> p ₇₅)	7.21 ^b	3.03-17.19	4.43 ^b	2.04-9.63
<i>Penalty tasks/ Restorative behavior</i>				
Bottom quartile (< p ₂₅)	ref		ref	
Second quartile (p ₂₅ – p ₅₀)	2.49 ^a	1.18-5.24	1.31	0.63-2.72
Third quartile (p ₅₀ – p ₇₅)	1.67	0.78-3.60	1.24	0.56-2.73
Top quartile (> p ₇₅)	2.88 ^b	1.39-5.93	1.54	0.76-3.14
<i>Deprivation of privileges</i>				
Bottom quartile (< p ₂₅)	ref		ref	
Second quartile (p ₂₅ – p ₅₀)	1.55	0.73-3.32	1.28	0.52-3.15
Third quartile (p ₅₀ – p ₇₅)	1.41	0.64-3.13	1.69	0.84-3.43
Top quartile (> p ₇₅)	3.03 ^b	1.39-6.63	2.25 ^a	1.11-4.56
<i>Inductive Discipline</i>				
Bottom quartile (< p ₂₅)	ref		ref	
Second quartile (p ₂₅ – p ₅₀)	1.06	0.49-2.29	1.01	0.46-2.22
Third quartile (p ₅₀ – p ₇₅)	2.4 ^a	1.12-5.16	1.93	0.92-4.07
Top quartile (> p ₇₅)	1.71	0.80-3.68	1.43	0.68-3.02

Analysis of each group of parental discipline practices (Power-assertive/punitive and inductive) and their subtypes, for the mother and the father, were run independently. Model controlled for gender, age, and whether the male parental figure was the biological father. OR, Odds ratio; CI, Confidence intervals; p₂₅, 25th percentile; p₅₀, 50th percentile; p₇₅, 75th percentile; ref, reference quartile.

^a p-values significant at p < 0.05.

^b p-values significant at p < 0.001.

punishment usually decreases,¹⁵ since they become too old to be spanked. Conversely, it is also a period when parent-child conflicts increase,¹⁹ causing the parents' use of psychological aggression, rather than physical, to be more likely. Similarly, the nature of bullying also changes with age: while in young children both physical and verbal aggressions are common, as they age physical aggression tends to decrease while verbal and indirect forms of aggression increase.²⁰ This may suggest a pattern of imitative behavior of the parents' manner of dealing with conflicts.

The current use of high levels of psychological aggression does not mean that other forms of physical punishment were not used in their childhood. Although the questionnaire asked about experiencing child disciplinary practices specifically in the previous year, the actual outcome measured may be somewhat associated with previous experiences.

The use of mild forms of corporal punishment only was associated with bullying behavior. Surprisingly, the use of harsh corporal punishment only by the mother, but not by the father, was statistically associated with bullying. It could be hypothesized that this may be due to a high number of divorced parents (n = 140, 56.7%). When they are away from home, fathers may be less involved in their children's discipline and have fewer opportunities to use child disciplinary practices of all types.

Bullies also identified significantly more non-biological fathers as their father figures. Non-biological fathers are known to be more inconsistent, careless, and uninvolved in the way they discipline than biological fathers.²¹ Conversely, living with the two biological parents was found to be a protective factor against bullying.²²

About one third of the students of this sample were corporally punished at least once a week, a number in

conformity with previous research in Brazil.¹² Recently, associations between experiencing spanking and willingness to strike in order to solve conflicts between peers have also been found.²³ Gershoff¹¹ argues that, when parents use corporal punishment, they are teaching their offspring that hitting is an acceptable way of dealing with interpersonal conflicts.

Trembley²⁴ indicates that aggression is a natural tool children use to obtain what they want, and that learning to regulate these natural behaviors is generally called 'socialization'. Discipline involves fostering many desirable behaviors that are not part of a child's natural repertoire, but that need to be taught through parental attention, encouragement, and explanation. Conversely, corrective discipline is as necessary as preventive, since children frequently test the limits previously established. Failure to take corrective action is a risk factor for child behavior problems, as inadequate corrective discipline is an important aspect of child neglect.⁹ Therefore, some power-assertive discipline is essential to establish clear limits and reduce undesirable behaviors. However, punishment should not be delivered in a way that depreciates, shames, or puts the child at risk of harm, as it occurs with corporal punishment and psychological aggression.

The study has some limitations. Primarily, due to its cross-sectional nature, we cannot be confident about the causal direction of the associations. Children who are predisposed to bullying might elicit punitive and harsher discipline when milder ones do not seem to work, what was previously described as child effects.²⁵ Second, the study relies on children and adolescents' reports of individual and parental behaviors. It would have been interesting to corroborate these self-reports with other informants. However, an adequate parent-child agreement for observable behaviors, such as control and discipline, has been demonstrated, and that children and adolescents are capable of providing accurate reports.²⁶ Lastly, this study did not investigate mental disorders in the parents or in the students, which could be an important factor for either parents' use of punitive discipline or the children's aggressive behavior at school.

This study has some important strengths that should be acknowledged. First, it was conducted in a community-based sample from public schools, increasing the external validity of the findings. A Latin American sample of youth is important to provide comparisons and contrasts with research on bullying conducted in the North American and European countries. Second, bullying behavior was cautiously measured, asking about particular acts rather than asking about bullying perpetration in general. This type of bullying assessment is important to assure reliable data, as 'bullying' is a foreign word, with no appropriate translation into Portuguese. Finally, differently from most studies that investigate only the mother, the present study investigated disciplinary practices from both parents. Since the father may constitute a substantial share of child discipline, it was considered important to include information on the fathers' use of discipline as well.

Pediatricians, family practitioners, and primary care nurses should advise parents about child disciplinary practices, and help them to find the best and most positive way to discipline their children. In a broader field, prevention

programs should not neglect the important role of parenting in bullying perpetration.

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Conflicts of interest

The authors declare no conflicts of interest.

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