

Trends

in Psychiatry and Psychotherapy

JOURNAL ARTICLE PRE-PROOF **(as accepted)**

Original Article

Prosocial behavior in children involved in peer violence

Marília Mendes Moreira de Sousa, Anderson Ribeiro da Silva, Marília Mariano, Rosângela Espolaor, Raquel Fernandes Shimizu, Jair J. Mari, Zila M. Sanchez, Sheila C. Caetano

<http://doi.org/10.47626/2237-6089-2023-0632>

Original submitted Date: 13-Mar-2023

Accepted Date: 17-Aug-2023

This is a preliminary, unedited version of a manuscript that has been accepted for publication in Trends in Psychiatry and Psychotherapy. As a service to our readers, we are providing this early version of the manuscript. The manuscript will still undergo copyediting, typesetting, and review of the resulting proof before it is published in final form on the SciELO database (www.scielo.br/trends). The final version may present slight differences in relation to the present version.

Prosocial behavior in children involved in peer violence

Marília Mendes Moreira de Sousa, Anderson Ribeiro da Silva, Marília Mariano, Rosângela Espolaor, Raquel Fernandes Shimizu, Jair J. Mari, Zila M. Sanchez, Sheila C. Caetano

Department of Psychiatry, Universidade Federal de São Paulo, São Paulo, SP, Brazil.

Corresponding authors:

Marília Mendes Moreira de Sousa; Sheila C. Caetano

Universidade Federal de São Paulo, Brazil

Department of Psychiatry

Email: mariliamendesms@gmail.com; sheila.caetano@unifesp.br

Statements and Declarations: Trial Registration – REBEC/Brazil: U1111-1228-2342 (<https://ensaiosclinicos.gov.br/rg/RBR-86c6jp>). 04/26/2019.

The authors have no relevant financial or non-financial interests to disclose.

ABSTRACT

Introduction: Peer violence is a serious type of school violence that is associated with emotional and behavioral problems.

Objective: To analyze violence between peers associated with students' social skills.

Methods: We used a cross sectional survey nested in a cluster randomized controlled trial to evaluate peer violence among elementary school students and its association with prosocial behaviors and mental problems. Teachers answered an adapted version of the Revised Olweus Bully/Victim Questionnaire and the Brazilian adaptation of the Teacher Observation of Classroom Adaptation-Checklist (TOCA-C) scale for each student. Children completed a sociodemographic questionnaire. The participants were 1,152 5-14-year-old children from Brazilian public schools; 79.70% reported being involved in violent situations.

Results: Children who had both committed and suffered violence were less likely to exhibit prosocial behaviors. Children who committed and suffered violence and those who only committed were more likely to experience concentration problems and disruptive behaviors.

Discussion: This study suggests that peer violence is associated with lower prosocial behaviors and more behavioral problems. Thus, more specialized mental health care is required for children involved in peer violence, in addition to the possibility of implementing and maintaining programs to prevent and reduce violence and to develop prosocial behaviors in schools.

Keywords: School Violence, Peer Violence, Prosocial Behavior, Disruptive Behavior.

Peer violence happens frequently in a school context. Such behavior is identified by aggressive circumstances between peers, aiming to hurt the victim through vexatious and embarrassing situations. The forms of violence are physical, psychological, and moral, such as kicking, hitting, badmouthing, spreading rumors or gossip, persuading and manipulating others to stop talking to the victim, having their belongings stolen, among other aversive behaviors. When this phenomenon happens repeated times and with lasting effects can be considered as bullying.¹⁻³ In this study, we have used the term "peer violence", because the frequency of violence among students was not verified.

In 2018, the Programme for International Student Assessment conducted a survey of 79 countries, finding that 29% of adolescents in Brazil reported being bullied a “few times a month”; the mean in other countries was 23%.⁴ The Teaching and Learning International Survey (TALIS), conducted in 48 countries in 2018 by the Organization for Economic Cooperation and Development (OECD), reported that in Brazil, 28% of principals working with the final years of elementary education reported daily or weekly bullying among students, compared to the Latin American average of 13%, showing that Brazil has higher

rates of bullying in school environments than that in other countries.^{5,6}

Children and adolescents inserted in an active peer violence context may present associated psychological and psychiatric problems.⁷ Since child development is a vulnerable process, there is a greater chance of initiating deviant attitude in this phase and maintaining violent behavior over time, such as bullying.⁸⁻¹⁰ The negative effects of peer violence on mental health can lead to inappropriate behaviors with oneself or others, such as problems inside and outside the school context, substance abuse, violation of norms and laws, behavioral and emotional problems, and a lack of social skills, including affective and educational skills, during school and after coming of age.^{3,11-13} However, child mental health problems can also contribute to peer violence.¹⁴

The construction of social skill repertoires is associated with the cultural context of the subject; thus, behaviors associated with assertiveness in communication, opinions, and attitude may be viewed as prosocial behaviors under the aegis of stabilized social norms.¹⁵ Decreased or absent social skills, which are essential protective factors for behavioral problems, can be perceived in those who committed violence, suffered violence, and committed and suffered violence.¹⁶

Prosocial behaviors, characterized in social skills, are defined by altruistic processes and positive acts with the intention of promoting the well-being of others. Furthermore, these behaviors are defined as interpersonal processes aimed at voluntarily benefiting others.¹⁷⁻¹⁹ That is, being prosocial improves friendship development.²⁰ A lack of social skills can be characterized by the strengthening of behaviors that hinder socialization, such as disruptive, aggressive, or repressive behaviors, or even classroom difficulties, concentration problems, and low academic performance. These behaviors, however socially undesirable in different contexts, such as school, can become adaptive for the individual, as protective mechanisms.²¹

In the literature, most studies evaluated high-income countries, showing how the

demands on mental health in children from low-income countries are neglected, becoming major public health concerns.^{22,23} It is then hypothesized that children who committed and suffered violence are less likely to present prosocial behaviors and more likely to present mental health problems related to concentration problems and disruptive behaviors. The objective of this study was to analyze peer violence and its associations with these specific behavioral repertoires in public school Elementary students in Brazil.

METHODS

Participants and environment

This is a cross-sectional study nested in a randomized controlled trial that evaluated the effectiveness of the [masked information].²⁴ The study used only baseline data collected in 2019. It included 1,152 children aged between 5 and 14 years in the first to fourth grades of elementary school from 11 public schools in the cities of [masked information], and their teachers (n = 40).

Table 1 Sociodemographic characteristics of students and teachers and labor characteristics of teachers

Student variables (N = 1,112)		N	w% or mean	wCI95%
Gender	Male	552	49,6	[0.47; 0.53]
	Female	560	50,4	[0.47; 0.53]
City	Capital	934	84	[0.82; 0.86]
	Metropolitan region	178	16	[0.14; 0.18]
School year	1 st year	188	16,9	[0.15; 0.19]
	2 nd year	205	18,4	[0.16; 0.21]
	3 rd year	261	23,5	[0.21; 0.26]
	4 th year	458	41,2	[0.38; 0.44]
Period	Morning	714	64,2	[0.61; 0.67]
	Afternoon	398	35,8	[0.33; 0.39]
Age	5	19	1,7	[0.01; 0.02]
	6	188	16,9	[0.15; 0.19]
	7	231	20,8	[0.18; 0.23]
	8	263	23,7	[0.21; 0.26]
	9	302	27,2	[0.24; 0.30]
	10	71	6,4	[0.05; 0.08]
	11	26	2,3	[0.01; 0.03]
	12	7	0,6	[0; 0.01]
	13	3	0,3	[0; 0.01]
	14	2	0,2	[0; 0]
Teacher variables (N = 40)		N	w% or mean	wCI95%
Education level	Complete high school or incomplete undergraduate degree	1	2,5	[-0.02; 0.07]
	Complete undergraduate degree to incomplete graduate degree	17	42,5	[0.27; 0.58]
	Complete graduate degree	22	55	[0.40; 0.70]

	0–4	5	12,5	[0.02; 0.23]
Time working as a teacher (years)	5–9	6	15	[0.04; 0.26]
	10–14	5	12,5	[0.02; 0.23]
	15>	24	60	[0.45; 0.75]
	1	33	82,5	[0.71; 0.94]
Number of schools in which teachers work	2	6	15	[0.04; 0.26]
	3	1	2,5	[-0.02; 0.07]
	1	4	10	[0.01; 0.19]
Number of classes currently taught	2	28	70	[0.56; 0.84]
	3	6	15	[0.04; 0.26]
	4	2	5	[-0.02; 0.12]
	30 hours	1	2,5	[-0.02; 0.07]
Working hours	40 hours	38	95	[0.88; 1.02]
	>40 hours	1	2,5	[-0.02; 0.07]
	B2	14	35	[0.20; 0.50]
SES	B1	6	15	[0.04; 0.26]

Legend: SES - socioeconomic status according to ABEP (28). B is equivalent to middle high

Data collection procedures

University students in the area of health were trained to administer the instruments to students and teachers. The instrument was individually administered to the teachers in a confidential space. The students were aided by field research assistants who read the questions aloud in the classroom and showed where the “yes” and “no” options would be in the questionnaire for each question.

Compliance with ethical standards

The research was approved by the ethics committee of the [masked information] (CAAE: 01517218.2.0000.5505, n: 1246/2018). The informed consent form ensured the subjects' voluntary participation, clarified the research objectives and the use of the information, and made volunteers aware of the procedures to which they would be subjected and their possible consequences.

Instruments and variables

The child instrument to assess peer violence was an adapted version of the Revised Olweus Bully/Victim Questionnaire.^{10,25} The original questionnaire measures bullying (23 items) and being bullied (23 items) in the previous 30 days. Responses are provided on a Likert scale 1-4 ranging from “never” to “several times a week.” Each item shows the behavior and frequency in which it occurred, such as: “said mean things about him/her or about his/her family” (aggressor’s version) or “made or tried to make other students dislike me” (victim’s version). Due to the children’s difficulty in responding according to the Likert scale, the possibilities of responses were adapted to “yes” and “no,” thereby misrepresenting the measurement factor so it was not possible to analyze the frequency in which violence occurred. But maintaining the construct of violent/aggressive behaviors. Violent behaviors were divided into exclusive categories: “committed and suffered violence,” “only committed,” “only suffered,” and “did not commit or suffer violence.” Data on the children’s gender and age were also collected for model adjustment. Previous research shows that the use of this instrument for younger children is effective for the development of the study.^{26,27}

The teachers responded to the Teacher Observation of Classroom Adaptation-Checklist (TOCA-C) scale, which assesses the behavior of each student in the classroom²⁸ adapted to the Brazilian reality.²⁹ **The instrument adapted has 21 items on a three-point scale (“rarely”,**

“sometimes” and “frequently”); the assessed factors were grouped into prosocial behavior, disruptive behavior, and concentration problems. A high score on the prosocial factor indicates positive behaviors, whereas higher scores on the last two factors indicate negative behaviors.

The teachers' sociodemographic questionnaire included information on gender, age, and education. The socioeconomic level was assessed by the Brazilian Association of Research Companies³⁰ index, which is based on the educational level of the head of the family, the ownership of several consumer goods, and the number of household employees. In this classification, groups A and E are the highest and lowest classes, respectively.

Statistical analysis

We described descriptive characteristics of the child and teacher samples. For categorical variables, absolute and relative frequencies were reported; for numerical variables, summary measures (mean and standard error) were presented.

We then performed a multinomial logistic regression in which the outcomes were the children's social skills, disruptive behaviors, and concentration problems (measured by the TOCA-C and classified without overlapping categories); the exposure was *violent/aggressive behaviors*. Regression was controlled by the children's gender and age. The confidence interval was 95%, with a p-value < 0.05 being considered significant. The Stata Statistical Software version 15 was used for the analyses.

RESULTS

Table 1 presents the descriptive data of students and teachers. The prevalence of the involvement of children in peer violence in this study is 79.70%, with 7.03% having committed some form of peer school violence, 25.23% having experienced violence, and

47.45% having engaged in or experienced both in the previous month. The socioeconomic status described in the table belongs to the teachers. Students are characterized by children from public schools, middle and lower class, who cannot afford private schools.

Table 2 presents the unadjusted multinomial logistic regression to analyze the outcomes prosocial behaviors, disruptive behaviors, and concentration problems in children exposed to violent social interactions or aggressive behaviors reported by students in the view of teachers. Table 3 shows the multinomial logistic regression adjusted for age and gender considering the outcomes **for prosocial behaviors, disruptive behaviors, and concentration problems**, and peer violence as exposure. The results of the adjusted and unadjusted models are extremely similar, suggesting that we should report only the adjusted results.

Table 3 shows that regarding **prosocial behaviors**, children who committed and suffered violence have a higher adjusted odds ratio (aOR) of presenting fewer **prosocial behaviors** than children who presented many **prosocial behaviors** (aOR = 2.42, CI95% = 1.41–4.12, $p < 0.05$). As for median **prosocial behaviors**, the scores for children who committed and suffered violence, who committed, and who were younger are significant (aOR = 2.39, CI95% = 1.62–3.53; aOR = 2.15, CI95% = 1.20–3.85; aOR = 0.65, CI95% = 0.59–0.73, respectively).

Regarding **disruptive behaviors**, children who committed and suffered violence and children who only committed have a higher aOR of developing such behavior (aOR = 2.93, CI95% = **1.59–5.40**; aOR = 2.56, CI95% = 1.07–6.13, respectively) than children who did neither. Age is also relevant (aOR = 1.32, CI95% = 1.18–1.48).

Children who committed and suffered peer violence or who only committed have 2.77 (CI95%=1.87–4.10) and 1.97 (CI95%= 1.06–3.65), respectively, more chances of having **concentration problems** than children who did neither. Additionally, age is a relevant factor regarding **concentration problems**, with older children having 71% (CI95%=1.0–1.28) more

chances at each one-year increment of having problems related to this behavior.

As for gender, boys are more likely to have more **concentration problems**, more **disruptive behaviors**, and fewer **prosocial behaviors** than girls: 0.54 (CI95% = 0.42–0.71), 0.59 (CI95% = 0.4–0.87), and 0.49 (CI95% = 0.34–0.71), respectively.

Table 2 Multinomial logistic regression non-adjusted with prosocial, disruptive, and concentration behaviors as outcome and peer violence as exposure

Peer Violence - Not involved (ref.)						
	Committed and suffered peer violence		Suffered peer violence		Committed peer violence	
	RRR	CI95%	RRR	CI95%	RRR	CI95%
Prosocial (frequently ref.)						
Rarely	2.515	1.481; 4.268	1.456	0.797; 2.662	0.934	0.336; 2.594
Sometimes	2.159	1.447; 3.157	0.997	0.632; 1.574	2.069	1.174; 3.645
Disruptive Behaviors (rarely ref.)						
Sometimes	3.008	1.634; 5.553	1.683	0.839; 3.374	2.835	1.192; 6.738
Frequently	2.353	1.472; 3.762	1.841	0.866; 2.531	2.457	1.237; 4.876
Concentration problems (rarely ref.)						
Sometimes	2.670	1.810; 3.937	1.465	0.943; 2.278	2.021	1.100; 3.714
Frequently	2.790	1.924; 4.046	1.413	0.923; 2.162	2.195	1.237; 3.893

Legend: Bold text represents statistically significant odds ratios at $p < 0.05$. RRR = Relative Risk Reduction.

Table 3 Multinomial logistic regression adjusted for age and gender with prosocial, disruptive, and concentration behaviors as outcome and peer violence as exposure

	Peer Violence - Not involved (ref.)						Gender - Boy (ref.)			
	Committed and suffered peer violence		Suffered peer violence		Committed peer violence		Age		Girl	
	RRR	CI95%	RRR	CI95%	RRR	CI95%	RRR	CI95%	RRR	CI95%
Prosocial (frequently ref.)										
Rarely	2.419	1.419; 4.126	1.451	0.791; 2.660	0.838	0.300; 2.342	0.90 3	0.792; 1.031	.489	.337.709
Sometimes	2.393	1.622; .530	1.046	0.658; 1.663	2.152	1.202; 3.853	0.65 2	0.586; 0.727	.963	.731 1.268
Disruptive Behaviors (rarely ref.)										
Sometimes	2.927	1.587; 5.398	1.665	0.829; 3.345	2.564	1.073; 6.126	0.93 5	0.813; 1.076	.591	0.401 0.870
Frequently	2.098	1.304; 3.374	1.385	0.806; 2.381	2.178	1.084; 4.374	1.32 3	1.184; 1.479	.573	0.414 0.792
Concentration problems (rarely ref.)										
Sometimes	2.766	1.868; 4.096	1.508	0.967; 2.352	1.972	1.065; 3.651	0.77 0	0.694; 0.855	.802	0.610 1.054
Frequently	2.550	1.751; 3.714	1.359	0.885; 2.089	1.953	1.093; 3.488	1.16 8	1.064; 1.283	.542	0.417 0.706

Bold text represents statistically significant odds ratios at p < 0.05.

DISCUSSION

Our hypothesis that elementary school children have higher rates of peer violence behaviors (committed/suffered) at school, which are associated with poor social skills, disruptive behaviors, and higher chances of concentration problems, is corroborated. In our study, students who committed, and who committed and suffered peer violence are more likely to present few prosocial behaviors. Researchers evaluated 39,936 schoolchildren aged 7–14 (from Finland, the Netherlands, and the UK) and also found a negative association between prosocial behavior and teacher-rated aggressive behavior. Therefore, the phenomenon of violence seems to be associated with decreased assertive behaviors that are consistent with good peer relationships. Children who committed and suffered peer violence seem to be less adaptive and have lower rates of prosocial behavior, possibly because they are involved in both roles of the phenomenon.³¹

It is important for child development to learn behaviors related to emotional expressiveness, problem solving through assertiveness, good relationships with others, and understanding the rules of the environment. In general, responses aimed at social skill practices produce more reinforcers for children in their collective development environment, helping to reduce risky behaviors such as peer violence.^{16,32} Acquired and improved social skills seem to be predictive of good school performance. These skills are related to child autonomy, caring, and a sense of justice.^{33,34}

Disruptive behaviors generate aggressive interactions. In our results, students who committed and who committed and suffered peer violence score in more than one intensity of disruptive behaviors. This is in agreement with researchers who reported that disruptive behaviors are twice as common in children who commit violence and three times as common in violence victims, and that the **co-occurrence** of externalizing behaviors and peer violence **has been observed** in early students.^{35,36} Children who committed and suffered violence have

lower ratings of classmate and teacher relations than children who are not involved in violence.³⁷ Bullying victimization in adolescents has been extensively documented as a strong predictor for the emergence of internalizing and externalizing problems, but very few studies demonstrated that children who encountered elevated levels of traditional bullying victimization exhibited a greater likelihood of experiencing both internalizing and externalizing problems.³⁸ Disruptive behaviors in violence victims and children who commit violence may also be associated with other factors such as depression, anxiety, and Attention Deficit Hyperactivity Disorder (ADHD).^{7,14} Children who commit peer violence specifically tend to engage in more problematic conduct and increased hyperactivity compared to their peers and children who are not involved in the phenomenon.³⁷ It is noteworthy that children who commit violence diagnosed with disruptive behaviors present high levels of aggression and a lack of empathy.³⁹

In this study, girls encounter a greater degree of emotional distress related to violent behaviors. Nevertheless, their response to this phenomenon exhibits a more prosocial nature when compared to boys.⁴⁰ Moreover, some children who commit this type of violence are esteemed by their peers, either for affection or admiration, showing themselves to be popular and proactive, thereby acknowledging that the aggressions committed are barely recognized as aversive behavior.⁴¹ Being a girl stands out in this respect as girls develop greater communication and socialization skills.⁴²

Girls also have fewer concentration problems and disruptive behaviors linked to violent relationships, regardless of whether they perform the role of aggressor or victim. Other studies have shown that boys are more involved in any type of violence than girls, with the exception of spreading rumors and gossiping.^{9,43} Aggressive physical interaction is a dominant peer violence practice primarily perpetrated by boys.^{44,45} Boys involved in this type of violence have lower school grades than their peers. Peer rejection appears to result in the

development of an antisocial attitude over a number of years, such as aggressive, oppositional, and disruptive behaviors.⁴⁶

Regarding the age of the children, this study indicates that younger students have a tendency to exhibit prosocial behaviors in relation to older students, reinforcing the need to create preventive programs that constantly work on reducing risk factors, such as violent social interactions or growing up in a threatening environment, and increasing protective factors.⁴⁹

Data has shown that teachers are working increasingly longer hours and spending more years in their profession.⁴⁸ While experience may enhance teachers' communication skills with students, specialized training is vital for establishing stronger connections and fostering advanced communication abilities. The primary aim is to encourage positive behaviors and address disruptive ones effectively. Notably, recent review has shown that teachers' preparedness plays a crucial role in their involvement following bullying incidents. Schools that implement whole-school antibullying programs and offer training to enhance staff efficacy demonstrate more proactive responses to such situations.⁴⁷ Furthermore, it is essential for teachers to take necessary care of their years of service, allowing them to balance their mental well-being.⁴⁸

School violence in children is a global public health problem. Schools aim to nurture citizens within an institution that should be considered safe for the physical, psychological, and social development of children and adolescents. Understanding the causes of peer violence requires exploring various theoretical frameworks, including system-level frameworks (e.g., social-ecological, family environment and relationships within school) and individual-level frameworks (e.g., genetics, developmental psychopathology).⁴⁹ In general, aggressive relationships can turn into protagonist behaviors that leads to aversive consequences regarding following disruptive demands, difficulties in following the teaching process, and other consequences such dropping out of school and psychological and material

damage.^{2,3} The involvement of children in peer aggression can generate social rejection from both children of the same age and teachers and staff.⁴⁰ Violent interactions seem to affect the personalities and self-confidence of children and, as a result, students lose interest in learning and the possibility of inserting themselves in assertive groups; moreover, they feel too intimidated to attend school and focus on their academic activities because they feel emotionally unprepared or need to constantly dedicate themselves to avoid violence or, conversely, exact revenge.^{44,45}

The study presented some limitations. Social desirability may have influenced the responses to the instrument. The teachers often responded during class breaks, in noisy break rooms, and in the presence of other professionals. The students responded to the instrument during class, where the environment may have influenced their responses in some way, such as due to noise and climate. Furthermore, the students' data collected from the teachers may present biases since the children did not answer the questions themselves, or due to not being directly observed in the classroom.

The TOCA-C instrument is an excellent low-cost tool that is not time-consuming. It uses data from teachers who interact with children on a daily basis. A longitudinal study is suggested to investigate causality, with assessments answered by students and direct observations.

Peer violence is a significant global public health concern among. Research indicates that both committing and suffering peer violence are linked to current and future mental health issues. Effective intervention strategies should encompass multiple systems and cater to the specific needs of individuals involved in peer violence, ultimately reducing the impact of this risk factor on mental health.⁵⁰ This study underscores the importance of implementing targeted measures to address mental health concerns within educational settings, including prevention programs, psychosocial monitoring of children in development, and

communication initiatives aimed at bolstering the crucial foundations of childhood: the school and family environments. In light of the findings, several aspects deserve attention in future research. It is important to highlight the family as a fundamental network in the development of children's behaviors, whether prosocial or disruptive, with the transmission of values and family relationships being valuable topics for future investigations and, furthermore, for promoting the implementation of prevention programs that actively involve this pillar. Additionally, it is imperative to probe the presence of mental health issues and social cognition performance in individuals exhibiting disruptive behaviors, concentration difficulties, and limited prosocial tendencies. An in-depth analysis of the interplay between these aspects can lead to a more comprehensive understanding of their collective impact on individuals' lives. These interconnected factors hold significant implications for the overall well-being and healthy development of children and adults, encompassing family members, educational professionals, and the children themselves in the long term. To this end, further examination of these relationships in forthcoming research can be pivotal in identifying effective interventions and augmenting existing support systems. Ultimately, such endeavors have the potential to foster an environment conducive to fostering healthy socioemotional growth.

In summary, this study suggests that peer violence, regardless of whether it is associated with suffered violence, is associated with lower prosocial behaviors and more concentration problems and disruptive behaviors. Thus, more specialized mental health care should be provided to children involved in peer violence. Furthermore, it is important to report that, even not using the definition of bullying, this study becomes relevant due to the age group studied, allowing preventive actions to occur and that such peer violence does not develop into more extreme situations throughout childhood and adolescence.

REFERENCES

- ¹ Ireland JL. *Bullying among prisoners: evidence, research and intervention strategies*. London: Routledge; 2012.
- ² Farrington DP. The importance of risk factors for bullying perpetration and victimization. *J Pediatr (Rio J) (Versão em Português)* [Internet]. 2020;96:667-9. Available from: <https://www.sciencedirect.com/science/article/pii/S2255553620300422?via%3Dihub>
- ³ Sousa MMM, Stelko-Pereira AC. Relações entre violência escolar, gênero e estresse em pré-adolescentes. *Revista Eletrônica de Educação* [Internet]. 2016;10:110-27. Available from: <http://www.reveduc.ufscar.br/index.php/reveduc/article/viewFile/1304/469> Portuguese.
- ⁴ Organisation for Economic Co-operation and Development. *PISA 2018 Results (Volume III): What School Life Means for Students' Lives*. Paris: OECD; 2019.
- ⁵ Organisation for Economic Co-operation and Development. *TALIS 2018 Results (Volume II): Teachers and School Leaders as Valued Professionals*. Paris: OECD; 2020.
- ⁶ Organisation for Economic Co-operation and Development. *TALIS 2018 Results (Volume I): Teachers and School Leaders as Lifelong Learners*. Paris: OECD; 2019.
- ⁷ Moore SE, Norman RE, Suetani S, Thomas HJ, Sly PD, Scott JG. Consequences of bullying victimization in childhood and adolescence: a systematic review and meta-analysis. *World J Psychiatry*. 2017;7:60-76.
- ⁸ Bender K, Perron B, Howard MO, Jenson JM. Strong-Arm Bullying Prior to Incarceration Among a Sample of Young Offenders. *J Soc Social Work Res*. 2010;1:1-13.
- ⁹ Silva MAI, Pereira B, Mendonça D, Nunes B, Oliveira WA. The involvement of girls and boys with bullying: an analysis of gender differences. *Int J Environ Res Public Health*. 2013;10:6820-31.
- ¹⁰ Solberg ME, Olweus D. Prevalence Estimation of School Bullying with the Olweus Bully/Victim Questionnaire. *Aggress Behav*. 2003;29:239-68.
- ¹¹ Bradshaw CP, Waasdorp TE, Leaf PJ. Examining variation in the impact of school-wide positive behavioral interventions and supports: findings from a randomized controlled effectiveness trial. *J Educ Psychol*. 2015;107:546-57.
- ¹² Marcolino EC, Cavalcanti AL, Padilha WWN, Miranda FAN, Clementino FS. Bullying: prevalência e fatores associados à vitimização e à agressão no cotidiano escolar. *Texto e Contexto Enfermagem*. 2018;27:1-10. Portuguese.
- ¹³ Källmén H, Hallgren M. Bullying at school and mental health problems among adolescents: a repeated cross-sectional study. *Child Adolesc Psychiatry Ment Health*. 2021;15:1-7.
- ¹⁴ Halabi F, Ghandour L, Dib R, Zeinoun P, Maalouf FT. Correlates of bullying and its relationship with psychiatric disorders in Lebanese adolescents. *Psychiatry Res*. 2018;261:94-101.
- ¹⁵ Van Grol LDS, Andretta I. Habilidades sociais e variáveis sociodemográficas em crianças com idade escolar: um estudo descritivo. *Temas em Psicologia*. 2016;24:1129-38. Portuguese.
- ¹⁶ Silva JL, Oliveira WA, Carlos DM, Lizzi EA da S, Rosário R, Angélica M, et al. Intervention in social skills and bullying. *Rev Bras Enferm*. 2018;71:1085-91.
- ¹⁷ Villardón-Gallego L, García-Carrión R, Yáñez-Marquina L, Estévez A. Impact of the interactive learning environments in children's prosocial behavior. *Sustainability*. 2018;10:1-12.
- ¹⁸ Pfattheicher S, Nielsen YA, Thielmann I. Prosocial behavior and altruism: a review of concepts and definitions. *Curr Opin Psychol*. 2022;44:124-9.

- ¹⁹ Bowes L, Aryani F, Ohan F, Haryanti RH, Winarna S, Arsianto Y, et al. The development and pilot testing of an adolescent bullying intervention in Indonesia – the ROOTS Indonesia program. *Glob Health Action*. 2019;12:1-13
- ²⁰ Laninga-Wijnen L, Steglich C, Harakeh Z, Vollebergh W, Veenstra R, Dijkstra JK. The Role of Prosocial and Aggressive Popularity Norm Combinations in Prosocial and Aggressive Friendship Processes. *J Youth Adolesc*. 2020;49:645-63.
- ²¹ Brandt AG, Padilha PSS. Bullying: conceituação, seus tipos e suas consequências para as vítimas e agressores. *Revista Cocar*. 2020;14:644-63. Portuguese.
- ²² Fatori, D, Salum GA, Rohde LA, Pan PM, Bressan R, Evans-Lacko, et al. Use of mental health services by children with mental disorders in two major cities in Brazil. *Psychiatr Serv*. 2019;70:337-41.
- ²³ Kieling C, Baker-Henningham H, Belfer M, Conti G, Ertem I, Omigbodun O, et al. Child and adolescent mental health worldwide: evidence for action. *Lancet*. 2011;378:1515-25.
- ²⁴ Mariano M, Silva AR, Lima JLS, de Pinho NT, Cogo-Moreira H, Melo MHS, et al. Effectiveness of the Elos 2.0 prevention programme for the reduction of problem behaviors and promotion of social skills in schoolchildren: study protocol for a cluster-randomized controlled trial. *Trials*. 2021;22:1-11.
- ²⁵ Guilheri J, Cogo-Moreira H, Kubiszewski V, Yazigi L, Andronikof A. Validité de construit du questionnaire rBVQ d’Olweus pour l’évaluation du harcèlement scolaire (bullying) auprès d’élèves français de cycle 3. *Neuropsychiatr Enfance Adolesc*. 2015;63:211-7. French.
- ²⁶ Clarkson S, Bowes L, Coulman E, Broome MR, Cannings-John R, Charles JM, et al. The UK stand together trial: protocol for a multicentre cluster randomised controlled trial to evaluate the effectiveness and cost-effectiveness of KiVa to reduce bullying in primary schools. *BMC Public Health*. 2022;22:15p.
- ²⁷ Silva MAI, Pereira B, Mendonça D, Nunes B, Oliveira WA. The involvement of girls and boys with bullying: an analysis of gender differences. *Int J Environ Res Public Health*. 2013 Dec 5;10:6820-31.
- ²⁸ Koth CW, Bradshaw CP, Leaf PJ. Teacher Observation of Classroom Adaptation-Checklist: development and factor structure. *Meas Eval Couns Dev*. 2009;42:15-30.
- ²⁹ Schneider DR, Kaszubowski E, Garcia D, Scaf L, Moraes-Cruz R, Sanchez ZM. Psychometric properties of a brazilian adaptation of the teacher observation of classroom adaptation-revised scale for children’s behavior. *Acta Colombiana de Psicología*. 2020;23:320-32.
- ³⁰ Associação Brasileira de Empresas de Pesquisa ABEP [Internet]. Critério de Classificação Econômica Brasil - CCEB. 2015 [cited 2023 Mar 11]:[6p.]. Available from: <http://www.abep.org/criterio-brasil>
- ³¹ Whipp AM, Vuoksima E, Bolhuis K, de Zeeuw EL, Korhonen T, Mauri M, et al. Teacher-rated aggression and co-occurring behaviors and emotional problems among schoolchildren in four population-based European cohorts. *PLoS One* [Internet]. 2021;16:e0238667. Available from: <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0238667>
- ³² Mariano M, Bolsoni-Silva AT. Social interactions between teachers and students: a study addressing associations and predictions. *Paideia*. 2018;28:[1p.]
- ³³ Feitosa FB, Del Prette ZAP, Del Prette A, Loureiro SR. Explorando relações entre o comportamento social e o desempenho acadêmico em crianças. *Estudos e Pesquisas em Psicologia*. 2011;11:442-55. Portuguese.
- ³⁴ Oliveira V, Ferreira D. Violência e Desempenho dos Alunos nas Escolas Brasileiras: uma análise a partir do SAEB 2011. *Rev Econ*. 2014;15:84-114. Portuguese.

- ³⁵ Kumpulainen K, Räsänen E, Puura K. Psychiatric disorders and the use of mental health services among children involved in bullying. *Aggress Behav.* 2001;27:102-10.
- ³⁶ Elliott SN, Hwang YS, Wang J. Teachers' ratings of social skills and problem behaviors as concurrent predictors of students' bullying behavior. *J Appl Dev Psychol.* 2019;60:119-26.
- ³⁷ Marengo D, Jungert T, Iotti NO, Settanni M, Thornberg R, Longobardi C. Conflictual student–teacher relationship, emotional and behavioral problems, prosocial behavior, and their associations with bullies, victims, and bullies/victims. *Educ Psychol (Lond).* 2018;38:1201-17.
- ³⁸ Gong X, Huebner E & Tian L. Bullying Victimization and Developmental Trajectories of Internalizing and Externalizing Problems: The Moderating Role of Locus of Control Among Children. *Res Child Adolesc Psychopathol* 2021; 49, 351–366. <https://doi.org/10.1007/s10802-020-00752-2>
- ³⁹ Kokkinos CM, Panayiotou G. Predicting bullying and victimization among early adolescents: associations with disruptive behavior disorders. *Aggress Behav.* 2004;30:520-33.
- ⁴⁰ Stubbs-Richardson M, Sinclair HC, Goldberg RM, Ellithorpe CN, Amadi SC. Reaching Out versus Lashing Out: examining gender differences in experiences with and responses to bullying in high school. *Am J Crim Justice.* 2018;43:39-66.
- ⁴¹ Mapes AR, Scafe M, Mutignani LM, Hernandez Rodriguez J, Pastrana FA, Gregus S, et al. Liked by Peers or Liked by Teachers: differential patterns of bullying over time. *J Sch Violence.* 2020;19:470-84.
- ⁴² Mezzari SS, Donadio MVF, Gerzson LR, Almeida CS. Desenvolvimento neuropsicomotor e desnutrição de uma população de risco de um bairro de Porto Alegre. *Medicina (Ribeirão Preto).* 2019;52:80-90. Portuguese.
- ⁴³ Carrera Fernández MV, Fernández ML, Castro YR, Failde Garrido JM, Otero MC. Bullying in Spanish secondary schools: gender-based differences. *Span J Psychol.* 2013;16:e21.
- ⁴⁴ Al-Raqad HK, Al-Bourini ES, Al Talahin FM, Aranki RME. The Impact of School Bullying On Students' Academic Achievement from Teachers Point of View. *International Education Studies.* 2017;10:44-50.
- ⁴⁵ Block N. The Impact of Bullying on Academic Success for Students With and Without Exceptionalities. *J Chem Inf Model [Internet].* 2014;53:21-5. Available from: <http://www.elsevier.com/locate/scp>
- ⁴⁶ Miller-Johnson S, Coie JD, Maumary-Gremaud A, Bierman KL, Dodge KA, Greenberg M, et al. Peer rejection and aggression and early starter models of conduct disorder. *J Abnorm Child Psychol.* 2002;30:217-30.
- ⁴⁷ Gizzarelli E, Burns S, Francis J. School staff responses to student reports of bullying: A scoping review. *Health Promot J Austr.* 2023 Apr;34(2):508-517. doi: 10.1002/hpja.680. Epub 2022 Dec 14. PMID: 36436208.
- ⁴⁸ Piovezan P R, Ri N M D. Flexibilização e intensificação do trabalho docente no Brasil e em Portugal. *Educação e Realidade* 2019 Apr 4 44(2). doi:10.1590/2175-623681355
- ⁴⁹ Jirsaraie RJ, Ranby KW, & Albeck D S. Early life stress moderates the relationship between age and prosocial behaviors. *Child Abuse & Neglect.* 2019; 94, 104029. Doi:10.1016/j.chiabu.2019.104029.
- ⁵⁰ Thomas HJ, Connor JP & Scott JG. Why do children and adolescents bully their peers? A critical review of key theoretical frameworks. *Soc Psychiatry Psychiatr Epidemiol* 2018; 53, 437–45. <https://doi.org/10.1007/s00127-017-1462-1>.