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# Evaluation of an anti-bullying intervention in the school context

## *Avaliação de uma intervenção antibullying no contexto escolar*

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### Abstract

#### Objective

This study aims to evaluate the effectiveness of an anti-bullying intervention carried out with adolescents from public schools.

#### Method

A longitudinal, quasi-experimental design was used, with pre-test and immediate post-test evaluations. A sociodemographic questionnaire, Cartoon Test, KIDSCREEN-52, and Social Support Appraisals were used. The intervention had four editions and consisted of eight weekly meetings, amounting to 16 hours. A total of 69 adolescents (12-17 years) participated in the study, 40 of which were allocated to the Experimental Group and 29 to the Control Group.

#### Results

After the intervention, the Experimental Group demonstrated improvements in the adolescents' perception of bullying, quality of life, and social support. The intergroup analysis indicated a better perception of bullying for the Experimental Group.

#### Conclusion

From the data, it can be concluded that the intervention demonstrated its effectiveness and has the potential to be replicated in the school context.

**Keywords:** Adolescence; Bullying; Prevention.

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### Resumo

#### Objetivo

Este estudo tem por objetivo avaliar a eficácia de uma intervenção antibullying realizada com adolescentes de escola pública.

**Método**

Foi utilizado delineamento longitudinal, quase-experimental, com avaliação em pré-teste e pós-teste imediato. Foram utilizados um questionário sociodemográfico, Cartoon Test, KIDSCREEN-52 e Social Support Appraisals. A intervenção teve quatro edições e consistiu em oito encontros semanais, totalizando 16 horas. Participaram do estudo 69 adolescentes (12-17 anos), sendo 40 alocados no Grupo Experimental e 29 no Grupo Controle.

**Resultados**

Após a intervenção, o Grupo Experimental demonstrou melhoras na percepção de bullying, qualidade de vida e apoio social. A análise intergrupos indicou melhor percepção do bullying para o Grupo Experimental.

**Conclusão**

A partir dos dados, conclui-se que a intervenção demonstrou eficácia e tem potencial para ser replicada no contexto escolar.

**Palavras-chave:** Adolescência; Bullying; Prevenção.

Bullying is defined as an aggression practiced by one or more people against another who is unable to defend himself. Therefore, intentionality, repetition, and inequality of power are three fundamental criteria that differentiate it from other forms of violence in the school environment (Olweus, 1993; Smith, 2014). Bullying, as a group process, is present in all schools, whether public or private, around the world. In Latin America, a systematic review study analyzed 51 articles referring to research on bullying and cyberbullying rates, in Colombia, Mexico, Argentina, Brazil, Bolivia, Peru, Chile, Nicaragua, Venezuela, Panama, Ecuador, and Puerto Rico. The review confirms a significant prevalence of bullying (victims, from 4.6% to 50.0%; aggressors, from 4.0% to 34.9%) and cyberbullying (victims, from 3.5% to 17.5%; aggressors, from 2.5% to 58.0%). Most of those involved are male, and the most frequent type of harassment is verbal, followed by psychological and physical (Garaigordobil et al., 2019).

There are many reasons for concern about bullying, given the negative effects on the mental health of children and adolescents, widely discussed by researchers (Smith, 2011). Barzilay et al. (2017) released the results of a survey, conducted with 11,110 students from 168 schools in the European Union, which analyzed the relationships between bullying (verbal, physical, and relational), symptoms of anxiety and depression, parental and peer support, and suicidal attempts/thoughts. The results reveal that being physically bullied increases the probability of an adolescent showing suicidal ideation by 39%, while relational bullying increases suicide attempts by 28%, with parental and peer support playing a moderating role in the process. In Brazil, Mello et al. (2017), based on data from the Pesquisa Nacional de Saúde do Escolar (National School Health Survey - 2015), reveal that bullies reported more risk behaviors (tobacco, alcohol, drugs, and early sexual intercourse), in addition to feeling lonely, having insomnia, and having few friendly relationships.

The negative consequences of bullying were the motivation for the development of the first known anti-bullying program. The Olweus Bullying Prevention Program (OBPP) was designed in the 1980s by Dan Olweus, at the request of the then Norwegian Minister of Education, who started a national campaign to fight this form of violence, after the suicide of adolescents, possibly due to bullying situations (Smith, 2019). The main goals of the OBPP are to reduce cases of bullying, prevent new bullying problems and achieve better peer relationships at school. Since then, interventions have been implemented in different countries (Smith, 2011), such as Brazil (J. L. Silva et al., 2018), Finland (Juvonen et al., 2016), Spain (Ortega-Barón et al., 2019), among others.

There are programs that use different theoretical perspectives, such as the cognitive-behavioral (J. L. Silva et al., 2018) or ecological (Ortega-Barón et al., 2019) model, with the aim of reducing bullying rates (Olweus et al., 2020), emotional problems and internalizing symptoms (Moore et

al., 2019), or seeking improvements in the school environment (Juvonen et al., 2016), quality of life, psychological well-being (Bonell et al., 2018), resilience and self-efficacy (Moore et al., 2019). Anti-bullying programs have worked with different components or foci, such as interpersonal relationships within the school, actions related to peer support, supporting parents/guardians, training teachers, or helping victims with coping strategies (Smith, 2011).

Positive Psychology has also contributed to studies that investigate empirical practices that go beyond those focused on problems, deficits, or pathologies, such as bullying. This movement considers variables associated with: positive subjective experience (positive emotions, values, optimism, etc.); positive individual traits or characteristics (empathy, gratitude, forgiveness, etc.); and positive institutions (which aim to promote human potential, such as family, schools, community centers, etc.) as protective factors for an optimal state of psychological functioning (Seligman et al., 2005). Programs with a positive and proactive approach contribute to improving the well-being and quality of life of adolescents and, consequently, their families in the face of adverse situations, considering health a multidimensional concept that encompasses the physical, psychological, and social aspects linked to positive development (Franco & Rodrigues, 2014).

Interventions may use a combination of variables, depending on the proposed objectives. As an example, the KiVa Antibullying Program, originally implemented in Finland, analyzed by Kaufman et al. (2018), considering variables such as bullying victimization, social anxiety, depressive symptoms, externalizing behaviors, self-control, self-esteem, popularity, cordiality, and parental rejection. The authors observed that children with high levels of peer rejection, internalization problems, and poor-quality parent-child relationships had less reduction in bullying victimization rates and concluded that there is a need to implement specific strategies in interventions, such as the relationship between school and family (Kaufman et al., 2018).

In Brazil, in 2015, the Law to Combat Bullying (Law nº 13.185) was approved, which established the Program to Combat Systematic Intimidation (Bullying). The law determines that educational establishments create measures to raise awareness, prevent, diagnose, and combat violence and systematic intimidation (Presidência da República, 2015). More recently, the Federal Government sanctioned Law nº 13.663, through which it amends article 12 of the law on National Education Guidelines and Bases (Law nº 9.394/96), with the purpose of proposing that schools develop measures to prevent violence school (complementing Law nº 13.185/15) (Presidência da República, 2018).

Considering the social relevance of the topic of bullying and the need for intervention strategies, it is understood that it is essential to expand the theoretical and methodological possibilities to develop interventions that comply with the legislation and that are evaluated based on systematic criteria (Lopes et al., 2013). Thus, in this study, the objective is to evaluate an anti-bullying intervention carried out with students in the final years of Elementary School in a public school in the Southern region of Brazil, with a view to raising awareness and contributing to the prevention of bullying in the school context.

## Structure of the anti-bullying intervention

For the design of the intervention, the theoretical perspective of Positive Psychology was adopted (Seligman & Csikszentmihalyi, 2000) and, as a way of conducting the intervention, the Experiential Method (Martín-Quintana et al., 2009) and Participatory Methodologies (Pereira et al., 2016; Santana & Avanzo, 2014).

The #NoBullying intervention consists of eight weekly group meetings, lasting 2 hours per session, totaling 16 hours. It has a multicomponent format, as it consists of the combination of different approaches and techniques (psychoeducation, individual activities, group dynamics, homework) to work with diversified contents (Durgante & Dell'Aglio, 2018). The activities are coordinated by a moderator (intervention applicator), with the presence of an observer, who evaluates the applicator's performance and assists in the development of activities.

The themes of each session are: 1) initial interaction and presentation of the intervention; 2) school bullying; 3) school environment; 4) empathy and respect for differences; 5) support network; 6) school engagement; 7) youth protagonism; and 8) evaluation of positive learning. From the perspective of Positive Psychology, the activities focus on positive aspects of the participants to change their behavior, valuing their subjective experiences (Seligman, 2002; Seligman & Csikszentmihalyi, 2000; Snyder & Lopes, 2009). Although the intervention was not school-wide, there were tasks for the participants to carry out with their families and tasks of disseminating posters and other materials in school environments. In addition, the participants planned and created activities and applied tasks about bullying and school coexistence to groups of children in the early years of school (3rd and 4th grade classes). Prior to the quasi-experimental study, a feasibility study (pilot) was conducted to verify the potential of the intervention and the need for adjustments in the initial version for the efficacy study (Durgante & Dell'Aglio, 2018).

## Method

This is a quasi-experimental study of groups (Shaughnessy et al., 2012), to evaluate the school anti-bullying intervention, with pre-test (T1) and post-test (T2, immediate) evaluations in the Experimental Group (EG - intervention participants) and in the Control Group (CG - no intervention). The CG is used to evaluate the effectiveness of the intervention, that is, to verify whether the changes that occurred over time in the EG are, in fact, due to the intervention. The independent variable (VI) in this study is the intervention and the Dependent Variables (DVs) are: perception of bullying; quality of life; and social support.

## Participants

The study included 69 adolescents from a public school in the metropolitan region of the city of Porto Alegre (Brazil), students between the 6th and 9th grades of Elementary School, aged between 12 and 17 years ( $M = 13.68$ ;  $SD = 1.16$ ), being 92.5% girls. Participants were allocated to EG ( $n = 40$ ) and CG ( $n = 29$ ). Four editions of the intervention were carried out, with a mean number of 10 participants in each group. This group size is similar to interventions performed in other studies (Martínez-González et al., 2016). The groups were composed in a non-probabilistic way (Shaughnessy et al., 2012), of the intentional type, and the students were invited to participate in the intervention after the consent of the School Principal and their legal guardians. The CG participants were invited to participate in the intervention after T2, however, they did not express interest, due to lack of availability in the other shift.

The EG started with 59 participants, with a sample loss of 32.2% (19 individuals who quit) throughout the sessions for distinct reasons, such as: having to help with domestic activities, taking care of younger siblings or starting professional courses. For the purposes of analysis in this study, for the EG, data from participants who completed T2 ( $n = 40$ ) were used.

## Instruments

The instruments used in this study were:

*Sociodemographic Questionnaire* – It is used to investigate participants' information such as gender, age, educational level, being expelled, their parents' educational level, family configuration, health problems and treatment.

*Cartoon Test* (CT; Smith et al., 2018) – Instrument used to evaluate the participants' perception of the meaning of bullying, in its various forms of presentation. The CT is divided into eight dimensions, according to a study conducted by Smith et al. (2018), in eight countries, including Brazil.

*KIDSCREEN-52* (validated for Brazil by Guedes & Guedes, 2011) – Questionnaire developed in Europe to evaluate participants' health-related quality of life. It consists of 10 dimensions, with questions on a five-point scale. In this study, the internal consistency of the dimensions ranged between  $\alpha = 0.67$  and  $\alpha = 0.88$ .

*Social Support Appraisals* (Squassoni & Matsukura, 2014) – Instrument that aims to evaluate social support. The Likert scale, with six points, scales social support in four dimensions. In this study, the internal consistency of the instrument was  $\alpha = 0.91$ .

## Procedures

Students from the final years of Elementary School (6th to 9th grade), morning and afternoon school shifts, aged between 12 and 17 years, were invited to participate in the intervention. All interested parties received an Informed Consent Term, to be signed by the parent/legal guardian, and an Assent Term, to be signed by the participant, in two copies, for both the EG and the CG. The same procedures were adopted in relation to the parents/legal guardians of the students in the early years who participated in the activities conducted by the adolescents.

Four intervention groups were carried out between May and November 2019, within the school premises. All sessions were recorded (as previously informed in the terms). The instruments were applied to the EG in the first and last meeting of the intervention. In the same period, the CG participants were contacted to answer the same questionnaires. The instruments were applied by two observers previously trained for the task. The application of the questionnaires and the conduction of the intervention were performed by different researchers, to avoid possible contamination of the results and to reduce the threat to internal validity (Levitt et al., 2018).

## Data Analysis

For the analyses, the IBM®SPSS® (version 22.0) was used. Previous analyses were carried out to verify normality (Shapiro-Wilk test, symmetry, kurtosis), missing values and outliers in the baseline evaluation of differences between groups regarding sociodemographic data and for each DV. To evaluate the differences between EG and CG at baseline, the chi-square test (for categorical variables) and t test for independent samples (for DVs) were used, given that the distribution of variables was normal. The internal consistency of the instruments was evaluated using Cronbach's alpha (Field, 2013).

For the evaluation of efficacy, intragroup quantitative analysis was performed using the t test of repeated measures, with pre-test (T1) and post-test (T2) data in the EG and CG. The t test for independent samples was also used to evaluate differences between groups at T2. To evaluate the effect size, Cohen's *d* (1988) and its classification (i.e., 0.20–0.49 = low; 0.50–0.79 = moderate; and more than 0.80 = high) were used.

The project was approved by the Research Ethics Committee of the La Salle University (Opinion nº 12087619.6.0000.5307, protocol nº 3.289.745), following the guidelines and standards of Resolution nº 510/2016 of the National Health Council for ethical principles in studies with human beings.

## Results

### Intervention adhesion

As for the criterion for adherence to the intervention, there was a sample loss of 32.2% of the EG participants during the meetings.

### Baseline analyses

Analyses were conducted to characterize the sample and verify pre-test differences for sociodemographic variables and DVs between the EG and the CG. Chi-square test results indicated that there were no statistically significant differences between groups at T1 for the variables school failure, and work and health problems. Only regarding gender, a significant difference can be observed, indicating that the EG was composed of a higher percentage of girls than the CG ( $\chi^2 = 11.13$ ;  $p = 0.001$ ). As for the dependent variables, the t test for independent groups did not indicate significant differences between the groups at baseline (T1).

### Intragroup (T1-T2) and intergroup analyses at T2

The results of the analyses with the paired t test, for the evaluation of differences in the means of the pre-post-intervention DVs in the EG and CG (intragroup analyses), are presented in Table 1.

The results of the intergroup analysis, EG and CG at T2, for each DV, were analyzed with t tests for independent samples and are presented in Table 2.

**Table 1**  
Results of Intragroup Analyses (T1-T2)

DVs	Experimental Group (n = 40)					Control Group (n = 29)				
	T1: M (SD)	T2: M (SD)	t	p	d	T1: M (SD)	T2: M (SD)	t	p	d
CT	29.40 (5.48)	31.68 (2.61)	-2.727	0.010**	0.53	28.72 (7.41)	29.38 (7.31)	-1.127	0.269	
CT1	0.30 (0.46)	0.05 (0.22)	3.606	0.001**	0.09	0.44 (0.50)	0.44 (0.50)	-	-	
CT2	4.07 (1.28)	4.67 (0.61)	-2.926	0.006**	0.59	3.55 (1.82)	3.89 (1.65)	-1.778	0.086	
CT3	6.60 (0.77)	6.60 (0.81)	0.000	1.000		6.82 (0.38)	6.86 (0.35)	-0.441	0.663	
CT4	3.72 (1.55)	4.20 (1.28)	-1.895	0.065		3.51 (1.90)	3.62 (2.00)	-0.593	0.558	
CT5	1.80 (0.56)	1.97 (0.15)	-2.014	0.051		1.86 (0.51)	1.89 (0.30)	-0.571	0.573	
CT6	3.67 (0.72)	3.92 (0.26)	-1.955	0.058		3.55 (0.90)	3.65 (0.66)	-0.902	0.375	
CT7	8.82 (2.35)	10.07 (1.40)	-3.273	0.002**	0.64	8.48 (2.86)	8.44 (3.14)	0.112	0.912	
CT8	0.40 (0.67)	0.17 (0.44)	2.040	0.048*	0.40	0.48 (0.57)	0.55 (0.73)	-0.571	0.573	
QOL	174.55 (24.01)	179.73 (30.48)	-1.878	0.068		180.97 (33.82)	180.41 (29.91)	0.188	0.852	
QL1	14.35 (3.07)	15.48 (3.78)	-3.035	0.004**	0.32	15.31 (3.60)	15.48 (3.97)	-0.427	0.672	
QL2	20.78 (4.88)	20.68 (5.20)	0.173	0.864		20.83 (5.59)	20.45 (5.12)	0.634	0.531	
QL3	19.93 (5.95)	21.30 (6.26)	-1.868	0.069		22.28 (5.59)	21.69 (6.53)	0.834	0.411	
QL4	15.50 (4.01)	17.13 (4.03)	-3.405	0.002**	0.40	18.90 (3.75)	18.31 (3.98)	1.518	0.140	

1 of 2

**Table 1**

Results of Intragroup Analyses (T1-T2)

2 of 2

DVs	Experimental Group (n = 40)					Control Group (n = 29)				
	T1: M (SD)	T2: M (SD)	t	p	d	T1: M (SD)	T2: M (SD)	t	p	d
QL5	17.25 (4.24)	16.98 (4.48)	0.383	0.704		16.66 (5.10)	17.10 (4.28)	-0.746	0.462	
QL6	19.73 (4.30)	18.78 (5.51)	1.450	0.155		20.62 (6.51)	19.76 (6.00)	2.286	0.030*	0.13
QL7	9.38 (2.74)	8.95 (2.97)	0.942	0.352		9.31 (3.21)	9.52 (2.95)	-0.497	0.623	
QL8	23.00 (3.78)	23.45 (4.58)	-0.755	0.455		21.62 (5.17)	21.83 (4.84)	-0.255	0.800	
QL9	22.50 (3.58)	23.78 (3.19)	-3.185	0.003**	0.37	22.93 (4.82)	22.90 (4.72)	0.051	0.960	
QL10	12.15 (2.24)	13.23 (2.04)	-2.759	0.009**	0.50	12.52 (2.35)	13.38 (2.27)	-2.463	0.020*	0.37
SS	130.30 (21.91)	134.60 (23.19)	-1.908	0.064		130.59 (22.77)	130.83 (22.17)	-0.121	0.905	
SS1	33.22 (6.33)	33.55 (6.44)	-0.434	0.667		32.24 (6.71)	32.79 (6.01)	-0.555	0.58	
SS2	35.60 (8.32)	35.42 (8.44)	0.221	0.826		37.24 (8.23)	35.62 (8.21)	2.137	0.041*	0.19
SS3	30.50 (4.69)	32.25 (5.16)	-2.814	0.008**	0.35	29.55 (6.64)	30.00 (6.78)	0.663	0.513	
SS4	30.97 (7.88)	33.40 (8.16)	-2.584	0.014*	0.30	31.55 (7.46)	32.41 (7.11)	-1.329	0.194	

Note: \* $p < 0.05$ ; \*\* $p < 0.01$ . t: t test for independent samples; d: Cohen's d.

CT: Cartoon Test; CT1: Aggressive fight; CT2: Physical bullying; CT3: Verbal bullying; CT4: Theft/damage to objects; CT5: Whispering/gossiping; CT6: Cyberbullying; CT7: Exclusion; CT8: Non-aggressive; DVs: Dependent Variables; QOL: General Quality Of Life; QL1: Health and physical activity; QL2: Feelings; QL3: Emotional state; QL4: Self-perception; QL5: Autonomy and free time; QL6: Family; QL7: Financial condition; QL8: Friends; QL9: School; QL10: Provocation/bullying; SS: Total Social Support; SS1: Friends; SS2: Family; SS3: Teachers; SS4: Others.

**Table 2**

Results of Analysis between the Experimental Group and the Control Group (T2)

1 of 2

DVs	Experimental Group (n = 40)	Control Group (n = 29)	t	p	d
	T2: M (SD)	T2: M (SD)			
CT	31.68 (2.61)	29.38 (7.31)	-1.834	0.071	
CT1	0.05 (0.22)	0.44 (0.50)	4.438	-	
CT2	4.67 (0.61)	3.89 (1.65)	-2.732	0.008**	0.62
CT3	6.60 (0.81)	6.86 (0.35)	1.632	0.107	
CT4	4.20 (1.28)	3.62 (2.00)	-1.460	0.149	
CT5	1.97 (0.15)	1.89 (0.30)	-1.375	0.174	
CT6	3.92 (0.26)	3.65 (0.66)	-2.060	0.043*	0.53
CT7	10.07 (1.40)	8.44 (3.14)	-2.902	0.005**	0.67
CT8	0.17 (0.44)	0.55 (0.73)	2.639	0.010*	0.63
QOL	179.73 (30.48)	180.41 (29.91)	0.093	0.926	
QL1	15.48 (3.78)	15.48 (3.97)	0.008	0.993	
QL2	20.68 (5.20)	20.45 (5.12)	-0.180	0.858	
QL3	21.30 (6.26)	21.69 (6.53)	0.250	0.803	
QL4	17.13 (4.03)	18.31 (3.98)	1.211	0.230	
QL5	16.98 (4.48)	17.10 (4.28)	0.120	0.905	
QL6	18.78 (5.51)	19.76 (6.00)	0.705	0.483	
QL7	8.95 (2.97)	9.52 (2.95)	0.784	0.436	
QL8	23.45 (4.58)	21.83 (4.84)	-1.417	0.161	
QL9	23.78 (3.19)	22.90 (4.72)	-0.922	0.360	
QL10	13.23 (2.04)	13.38 (2.27)	0.295	0.769	
SS	134.60 (23.19)	130.83 (22.17)	-0.679	0.499	
SS1	33.55 (6.44)	32.79 (6.01)	-0.495	0.622	
SS2	35.42 (8.44)	35.62 (8.21)	0.096	0.924	

**Table 2**

Results of Analysis between the Experimental Group and the Control Group (T2)

2 of 2

DVs	Experimental Group (n = 40)	Control Group (n = 29)	t	p	d
	T2: M (SD)	T2: M (SD)			
SS3	32.25 (5.16)	30.00 (6.78)	-1.565	0.122	
SS4	33.40 (8.16)	32.41 (7.11)	-0.522	0.603	

Note: \* $p < 0.05$ ; \*\* $p < 0.01$  t: t test for independent samples; d: Cohen's *d*.

CT: Cartoon Test; CT1: Aggressive fighting; CT2: Physical bullying; CT3: Verbal bullying; CT4: Theft/damage to objects; CT5: Whispering/gossiping; CT6: Cyberbullying; CT7: Exclusion; CT8: Non-aggressive; DVs: Dependent Variables; QOL: General Quality Of Life; QL1: Health and physical activity; QL2: Feelings; QL3: Emotional state; QL4: Self-perception; QL5: Autonomy and free time; QL6: Family; QL7: Financial condition; QL8: Friends; QL9: School; QL10: Provocation/bullying; SS: Total Social Support; SS1: Friends; SS2: Family; SS3: Teachers; SS4: Others.

Regarding the perception of bullying evaluated from the Cartoon Test, the EG showed a significant difference in the mean of the instrument (sum of all items) and differences in some dimensions: there was an increase in the means in the identification of physical bullying and exclusion, with moderate effect size, and reduction in averages of aggressive fights and non-aggressive cartoons, with low effect. In the CG, there was no significant difference in any dimension of this variable. When comparing the groups, these differences were also significant at the end of the study (at T2).

Regarding quality of life, evaluated by the KIDSCREEN-52, significant differences were observed in the means found in the EG, with an increase in the health and physical activity, self-perception, and school dimensions, in relation to the CG, although with a low effect size. In addition, there was an increase in the dimension related to the self-perception of provocation/bullying suffered by the participant, with a moderate effect for EG and low for CG. No significant differences were found in the intergroup analysis.

In social support, the EG showed a significant increase in the relationship with teachers and relationships with other dimensions, although with a low effect size, and the CG showed a reduction in the family dimension. No significant differences were found in the intergroup analysis.

## Discussion

In the social context in which the intervention was applied, many participants are responsible for caring for younger siblings or helping with household chores, which may explain the loss of EG participants during the meetings. Literature data on adherence and retention of participants, in models of health programs conducted in an international context, vary between 20–30%, and can reach 50% of loss during the intervention (Riekert et al., 1990/2014), which is similar to the percentage found in this study. As for the analysis for the characterization of the sample at T1, the gender difference observed among the participants of this study, with a predominance of girls, may be reflecting aspects of gender typification present in our society. In a study on the role of family socialization in the construction of school trajectories differentiated by gender, in a public school in São Paulo, it was possible to perceive the school as a nice space for girls, where they attend more often and with more pleasure (Senkevics & Carvalho, 2015).

Analyzing the intervention variables, in relation to the perception of bullying, evaluated using the Cartoon Test, all the significant results were in the expected direction, suggesting that, somehow, the perception of bullying among the students who participated in the intervention

became clearer, since aggressive and non-aggressive fighting cartoons, a priori, should not be identified as bullying, according to the instrument specifications (Smith et al., 2018).

It is believed that the activities developed during the intervention may have contributed to these results. The concept of bullying was initially presented to motivate debate by the group, which had the possibility to compare situations experienced by themselves and discuss their meaning in the cultural context in which they are inserted. In addition, they had an activity to observe interactions between students during class breaks. When they returned to the room, the adolescents shared their observations with the other classmates; analyzed whether the identified behaviors could be considered jokes, bullying, or other forms of violence; and discussed ways to contribute to the improvement of relationships established in the school. In this way, bullying was a constant agenda throughout the sessions and was interwoven with the topics addressed throughout the intervention, such as empathy, support network, or engagement.

In the evaluation of self-perception of provocation/bullying, performed using the KIDSCREEN-52, which measures quality of life, it was observed that participants in both groups indicated that they felt attacked/intimidated by their peers. Analyzing specifically the instrument used, it is noteworthy that this dimension is composed of three questions, which do not allow identifying whether the situations are configured as bullying or not. It should be noted that not every aggression is a form of bullying, and the instrument does not make the difference between these forms of violence evident, since it does not consider aspects such as frequency, repetition, imbalance of power, and intentionality. Still, it is important to reflect on this result.

The intervention had as one of its purposes to contribute to the understanding of what bullying is and, indirectly, of other forms of aggression between peers, especially with the use of the Cartoon Test instrument. Although, currently, there is a discussion about violence between peers and its negative effects, the perception that aggressions are typical games of age is still present in our culture (Lisboa et al., 2014). For this reason, young people are often attacked in their daily lives at school, but they do not realize that it is violence. Thus, from the intervention, students may have become aware that many of the situations they experience can be considered forms of violence, changing their initial perception. Even though the CG students did not participate in the intervention, they shared the same school environment, responded to the instruments, interacted with their EG colleagues, and had contact with materials exposed at school, which may have indirectly contributed to this result. This hypothesis is justified by understanding bullying as a group and systemic phenomenon (Olweus, 1993).

In addition to enabling the construction of new knowledge about bullying, the intervention also sought to contribute to a positive self-perception. In general, specific biopsychosocial changes in adolescence generate cognitive and emotional issues that translate into a decrease in positive health perception (Borges et al., 2011). However, the results referring to the evaluation of quality of life showed that adolescents noticed an improvement in their physical health and how they see themselves, which is important for the prevention of bullying, as pointed out by a survey with 2,614 adolescents, in which an association was found between negative self-perception and this form of violence (B. R. V. Silva et al., 2018). From the paradigm of Positive Psychology, the theoretical basis of the intervention, it is understood that it is necessary to keep the focus on the development of positive qualities in people (Seligman & Csikszentmihalyi, 2000). Therefore, at different times, EG participants had the opportunity to talk about themselves, about their positive characteristics and why they were important to their peer group. This factor may have contributed to the improvement of self-satisfaction, both in self-perception and in health, which becomes a protective factor in

bullying dynamics (Gouveia et al., 2017), as victims usually have a negative view of themselves and low self-esteem (Olweus, 1993).

In addition to feeling good about themselves, adolescents must perceive the school as a welcoming and protective space, capable of seeking, together with their students, peaceful solutions for cases of school violence, such as bullying. The EG participants showed greater satisfaction with the school, a result that can also be attributed to the intervention, based on school engagement. Constant encouragement of positive relationships at school and participation in school, social and extracurricular activities may have been relevant to this change in perception. It is understood that adolescents who are more connected to school are less likely to engage in risky behaviors such as bullying (Chapman et al., 2011; Yang et al., 2018), and tend to improve their school performance and establish lasting bonds in this development context (C. R. Silva et al., 2017), contributing to a better quality of life. It is understood that it is the role of the school to act as a positive institution, which seeks to promote the full potential of its students to assist in the resolution of conflicts and to act in the change of its surroundings (Seligman et al., 2005).

In addition to feeling like they belong in the school, it is important for the adolescents to have good relationships not only with their peers, but also with teachers, staff, and other members of their community. This aspect was reinforced during all intervention meetings, through activities focused on the support network. Therefore, another positive result that can be attributed to the intervention, since it was not observed in the CG, was the increase in the perception of social support by teachers and other people who are part of their relationship networks.

The influence of the relationships established in the microcontexts of school, family, or other environments is notorious, which are predictors for situations of risk, such as bullying, and protection, preventing the occurrence of risk factors (Gouveia et al., 2017). When a child or adolescent does not perceive or has little social support from their peers, school, or family, they are more likely to develop aggressive behaviors (Gouveia et al., 2017); on the contrary, the perception of social support results in a sense of security and well-being (El Achkar et al., 2017). Therefore, this variable has been considered in anti-bullying interventions, including in the Brazilian scenario, with satisfactory results (J. L. Silva et al., 2018). A study by Oliveira et al. (2020) indicated that a poor school environment (violent, with poor support from teachers, or inadequate responses by teachers and the school to bullying) can contribute to the development and maintenance of aggressive and cyberbullying behaviors, concluding that strategies that strengthen these relationships are extremely important in the design of intervention programs.

With the purpose of expanding the perception of social support, activities were developed, especially in meeting number 5, which contemplated the recognition of support among peers and teachers and the identification of the support network of each participant. From this, it can be hypothesized that the adolescents came to realize that their support network is broader than they initially assumed and to understand that they can count on these people at different times in their lives. It is important that students have the perception of their social support network, recognizing important people who can help in different risk situations (Gouveia et al., 2017).

However, despite being constantly encouraged to interact with their peers and family, two dimensions did not present the expected results, which are the adolescents' relationships with their peers and family. This result can be attributed to the fact that three questions about peers refer only to the perception of time that participants have with their friends and not to the quality of relationships. As for the family, in four meetings, the participants received tasks related to the theme of the day to be carried out in the family context. However, only a small portion developed these

activities, either due to lack of time on the part of the families or due to the distance between the adults in the family and the adolescents. In general, at the end of adolescence, it is natural for young people to decrease their perception of social support in relation to friends and family, especially when, for example, romantic relationships come to play a prominent role (Gouveia et al., 2017).

Finally, the importance of developing activities focused on the positive development of participants, a basic assumption of Positive Psychology, is reinforced. From this perspective, young people have greater potential to become the protagonists of their own lives by strengthening their ability to grow and develop in a healthy way.

### **Limitations of this study**

This research has limitations. The first one is related to the structure of the intervention, aimed only at students, which may have directly influenced the results of some variables, which involved relationships in the family context and with friends outside of school, contexts not covered by the proposal. Other aspects are the duration of the intervention, which totaled 16 hours, being characterized as brief, and the disproportion between the genders in the composition of the EG sample. In future studies, it is recommended that the intervention be carried out in the same school shift as the students, as an integral part of the curriculum throughout the school year, and that the sample be expanded and have more balance regarding the gender of the participants. In addition, although cyberbullying was addressed during the intervention, it is recommended that a meeting on this type of violence be added.

Another limitation is that the study did not include a follow-up evaluation to analyze the variables, which would allow the analysis of the effect of the intervention over time and a greater precision of the results (Shaughnessy et al., 2012). It is also noteworthy that the results of the study are specific to the context and local culture, since the data were collected in only one school, and therefore cannot be generalized to other countries, or even other regions of Brazil.

### **Final Considerations**

This study aimed to evaluate the effectiveness of an anti-bullying intervention carried out with adolescents from a public school in southern Brazil. In the data analysis, differences were observed in the perception of bullying and in the quality of life and perception of social support sub-dimensions, with favorable results for the group that participated in the intervention. Although the differences are of low to moderate effect sizes and do not allow definitive conclusions about the effectiveness of the intervention, the results show signs of relevance of the proposal and may indicate improvements to be made in its continuity. For this, new studies with larger samples, as well as qualitative studies, should be developed, to evaluate the participants' perception about the activities and the learning achieved, help in the refinement of the application format and methodology and contribute to a social validation of the intervention, observing if the proposed objectives are valid and if the effects are important.

The need for longer-term interventions that work from a whole-school perspective and integrate the school curriculum is recognized, in order to have greater potential for success. However, it is believed that there are many challenges for scaling up interventions, such as lack of family involvement, excessive teacher workload, inadequate preparation of teachers and managers for the implementation of the program, and little interest from students. Added to this are the limited financial resources on the part of schools or researchers involved in the planning and implementation of these programs.

Thus, even though the complex nature of the reality of school environments can make this task difficult, it is considered that evidence of the effectiveness of interventions in a school context can contribute to the development of more favorable attitudes in the fight against bullying. The ideal scenario is the promotion of anti-bullying programs by governments, as with the OBPP and KiVa, implemented in Norway and Finland, respectively. In Brazil, despite the existence of a specific anti-bullying law, there is still a need to involve public agents so that interventions with this focus are effectively implemented.

The #NoBullying intervention is an innovative proposal that can contribute to the design of new evidence-based interventions aimed at the school context, especially considering the need to comply with legislation. The use of the theoretical approach based on Positive Psychology is highlighted, which works on the healthy aspects of adolescents, promotes a positive social life, raises awareness about bullying, and encourages the protagonism of students, who can play an active role and become multipliers of actions to prevent this type of violence.

Finally, the importance of such proposals being implemented and evaluated based on scientific criteria is highlighted, being systematically incorporated into the routines of schools, with the integration of anti-bullying actions to educational projects and to educational and school management policies, seeking to improve the quality of life of our children and adolescents.

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## Contributors

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