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## Anti-bullying interventions in schools: a systematic literature review

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**Abstract** *This paper presents a systematic literature review addressing rigorously planned and assessed interventions intended to reduce school bullying. The search for papers was performed in four databases (Lilacs, Psycinfo, Scielo and Web of Science) and guided by the question: What are the interventions used to reduce bullying in schools? Only case-control studies specifically focusing on school bullying without a time frame were included. The methodological quality of investigations was assessed using the SIGN checklist. A total of 18 papers composed the corpus of analysis and all were considered to have high methodological quality. The interventions conducted in the revised studies were divided into four categories: multi-component or whole-school, social skills training, curricular, and computerized. The review synthesizes knowledge that can be used to contemplate practices and intervention programs in the education and health fields with a multidisciplinary nature.*

**Key words** *Bullying, Violence, Adolescent, School health*

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## Introduction

Bullying is violence perpetrated among peers and is considered to be a public health problem that affects the development and learning-teaching process of school-aged children and adolescents<sup>1</sup>. Its main characteristics include: abuse that is repeated over time; intention to cause suffering in someone else; and imbalance of power between the parties<sup>2</sup>. This type of violence is considered a social and group phenomenon in which the behavior of all those involved (victims, bullies and bystanders) influences both its continuity and its cessation<sup>3</sup>.

In terms of violence, bullying is identified all over the world. One study conducted in 40 countries in North America and Europe, shows that its occurrence rates ranged between 8.6% and 45.2% among boys and between 4.8% and 35.8% among girls<sup>4</sup>. In Brazil, the National School Health Survey (PeNSE) performed in 2012 revealed that 7.2% of the participants were victims of bullying, while younger male African-descendant or indigenous individuals, whose mothers presented lower levels of education, were more likely to become victims. Bullies totaled 20.8% of the sample, while older male students, of African or Asian descent, whose mothers presented higher educational levels and studied in private schools, were more likely to become bullies<sup>5</sup>.

Regardless of prevalence rates, the consequences of bullying for students, school community and society, are of concern. The negative impact it has on the students' physical and mental health, such as anxiety, low self-esteem, depression, self-mutilation, loneliness, and suicide, are the most frequently reported<sup>6,7</sup>. In regard to social development, bullying affects interpersonal relationships when a passive relationship is adopted or when aggressive behavior is used as an alternative to solving conflicts<sup>8</sup>. Risk behavior, such as delinquency or the use of alcohol or other drugs, is also associated with the phenomenon.<sup>9,10</sup> PeNSE also identified an association between bullying and smoking. Being a victim may favor the consumption of alcohol or other drugs<sup>9</sup>, while being a bully may be related to indiscipline, and school failure or school abandonment<sup>5</sup>.

Given this context, and considering the prevalence and negative effects of bullying in Canada, for instance, the theme has been explored by public policies encouraging anti-bullying programs. Despite limitations, this approach encourages the consideration of alternatives available, such as in the field of social rights within a democratic re-

gime, to reduce this phenomenon in schools.<sup>11</sup> The literature reports interventions conducted in many countries; however, few report positive results. In statistical terms, considering different sociocultural contexts, bullying decreases 20%, on average<sup>4</sup>.

In general, broader interventions that move beyond an individual approach, that is, those including the families of students and developed by intersectoral and multidisciplinary teams, are more effective. Additionally, the following aspects are considered to be essential: teacher training; actions to sensitize the public regarding the phenomenon; and individual and/or collective support provided to students involved in this type of violence<sup>4</sup>. In summary, more efficacious interventions cover the students' social, educational, familial and individual dimensions, considering different contexts and cultures<sup>12</sup>.

Therefore, the identification of scientific literature addressing successful or unsuccessful anti-bullying interventions is essential to establishing what is effective and what is not effective in order to develop new intervention models according to each context. In this sense, this study's objective was to verify the effectiveness of rigorously planned and assessed interventions intended to fight school bullying.

## Method

### Study design

This systematic literature review was based on: 1) the establishment of a guiding question; 2) varied sources to locate studies; 3) establishment of inclusion and exclusion criteria; and 4) assessment of the methodological quality of the studies selected<sup>13,14</sup>.

### Databases and search strategies

The studies were searched on four databases: Lilacs, PsycINFO, Web of Science, and SciELO. The PICO (Patient or Problem, Intervention, Control or Comparison, Outcomes) was used<sup>15</sup> to establish the guiding question: "What interventions are implemented to decrease bullying in schools?". The main key words related to the themes investigated were cross-searched: "bullying AND school AND intervention"; "bullying AND school based intervention"; "antibullying program AND school". Equivalent key words in Portuguese were used in the SciELO database.

Broader terms were intentionally used at this point to locate a greater number of papers and avoid some important study inadvertently being disregarded.

### Inclusion and exclusion criteria

Only papers specifically focusing on school bullying and case-control studies, the data of which were assessed and compared before and after the intervention to ensure that changes verified in the experimental group were actually associated with the intervention rather than with any other condition or variable not included in the investigation, were included. No restrictions were imposed in regard to the year of publication, only in regard to the language, so that only papers written in Portuguese, Spanish or English would be included.

Exclusion criteria included: books, book chapters, editor's letters, among other formats that are not submitted to rigorous, peer-reviewed assessment as occurs with scientific papers. Studies, with designs other than case-control, were also excluded, as well as papers that did not specifically address bullying.

### Review Procedures

Two researchers searched bibliographic data in February 2015 based on the established inclusion criteria. The first stage concerning the selection of studies included reading and analyzing the titles and abstracts of all the papers initially selected. In the second stage, the full texts were read, which led to the exclusion of papers that did not meet the criteria. In the third stage, the papers' main information was synthesized in a spreadsheet to guide the descriptive and critical analysis of papers.

The Scottish Intercollegiate Guidelines Network (SIGN) checklist was used to assess the methodological quality of case-control studies<sup>16</sup>. The instrument is composed of 11 questions, some of which are grouped into categories. In the assessment of papers, each question scores one, so that a paper can score one in the question concerning the research, six in the selection of participants, two for the measurement/assessment of results, one for the control of confounding variables, and one for the quality of statistical analysis. Studies are considered to present high quality when most or all the criteria are met, acceptable quality if more than half the criteria are met, and low quality if fewer than half the criteria are met<sup>16</sup>.

## Results

The bibliographical search resulted in 901 papers, 369 of which appeared more than once. A total of 449 papers were excluded after applying inclusion and exclusion criteria, and another 65 papers were excluded after reading the full texts. The 18 papers that remained composed the *corpus* of the review. Figure 1 presents the flowchart with the identification, selection and steps for the inclusion of texts. Table 1 presents a summary of the studies' main characteristics.

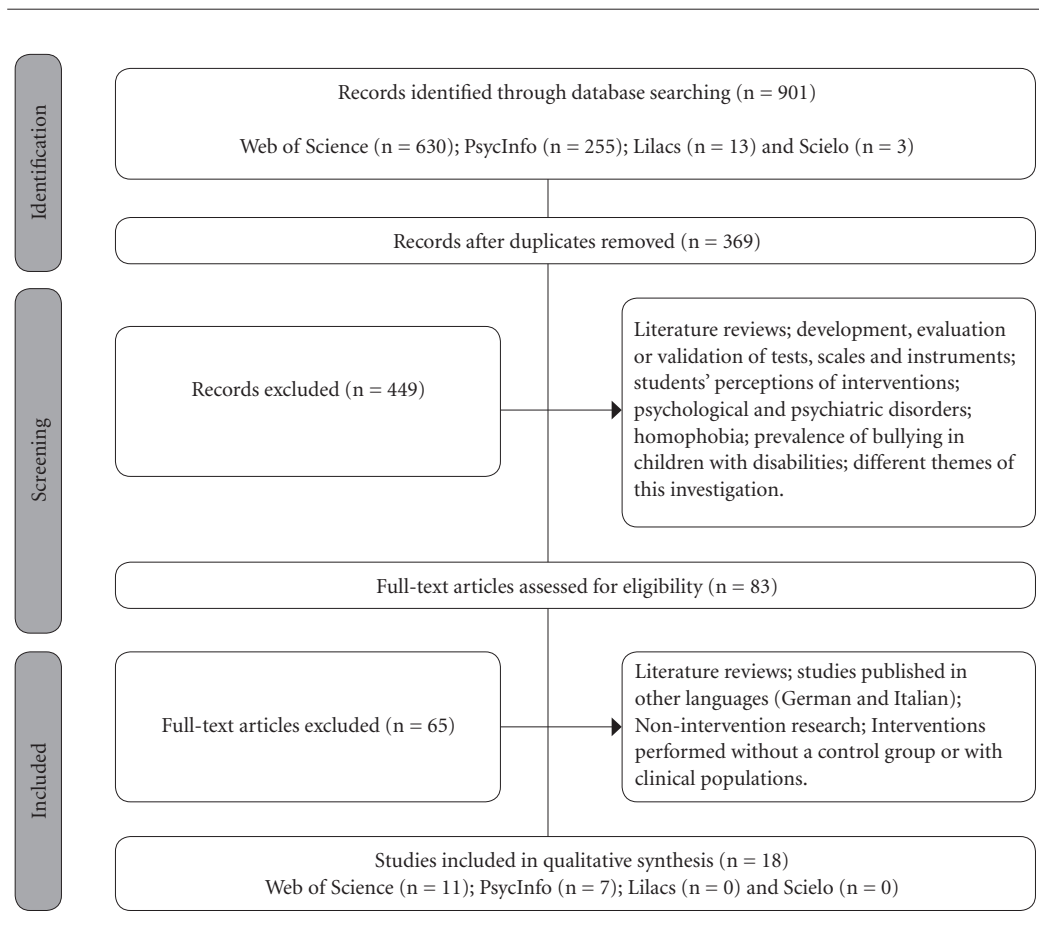
As presented in Table 1, the papers are evenly distributed over time, with the exception of the last five years, which showed an expressive increase in papers that reveals a growing interest in the investigation of interventions intended to prevent or fight bullying in schools. The United States, Finland and England were the countries with the largest number of papers. All studies were published in English, though less than half the papers (38.8%) originated English countries such as the United States, England or Canada.

The papers were published in 15 periodicals distributed in three fields of knowledge: Psychology, Education, and Health (Table 1). A higher number of psychology journals and authors from the field of psychology suggest that these professionals have a greater interest in the development of anti-bullying interventions. Nonetheless, considering that it is a recurrent problem in schools, it should be more frequently investigated by those in education, that is, those who are more directly involved with it. Additionally, from an intersectoral perspective, the health field also needs to be included in this debate, especially in regard to primary health care services and actions that promote the health of students.

In regard to the studies' methodological characteristics (Table 1), sample sizes ranged from 28 to 297,728 subjects, while 38.8% of the studies included more than 1,000 subjects, considering both experimental and control groups. The studies' sample loss is small considering the sample sizes. Most studies did not implement follow up (66.7%) and those that did, implemented a 12-month follow up.

Assessment of the studies' methodological quality is presented in Table 2 and shows that all the studies met most of the criteria presented in the SIGN<sup>16</sup> checklist and, therefore, are considered high quality studies.

As shown in the Table 3, the age of the participants ranged from 7 to 15 years old. Sexes were equally represented in most investigations



**Figure 1.** PRISMA flowchart concerning the selection of papers.

and none of the studies exclusively addressed one sex, which is positive considering the possibility of assessing the results of interventions based on gender. In regard to the strategy used, most interventions were universally applied (i.e., to all students), while approximately one fifth of the papers addressed specific participants (victims). Cognitive-behavioral interventions also stood out. Most interventions (63.1%) were implemented in 10 sessions or fewer, and were applied in groups (89.9%), while the teachers were those responsible for conducting most of the intervention activities (72.2%).

Table 4 was prompted by the study developed by Ttofi and Farrington<sup>3</sup> and presents the main characteristics of the interventions implemented in each of the studies included in this review.

There is a variety of approaches, while most interventions adopted a whole-school approach,

with multiple components; slightly more than one third (38.9%) of the studies adopted a school-wide perspective, the focus of which is broader and involves varied activities directed to students, to the school staff, and families. In most cases, partnerships were established between researchers and the school staff (66.7%), seeking to implement interventions. Another aspect that stood out was that more than half of the studies included one component directed to the families; information was provided to the parents (55.6%). In some cases (27.8%), technology was included in the activities or activities were fully implemented with the use of computer resources (e.g., computer games).

The interventions reported by the studies can be assigned into four categories: multi-component (whole-school), social skills training, bullying prevention integrated into the curriculum,

**Table 1.** Characteristics of papers.

Characteristics	n	%
<b>Study</b>		
<i>Publication year</i>		
1996-2000	3	16,7
2001-2005	3	16,7
2006-2010	4	22,2
2011-2014	8	44,4
<i>Country</i>		
United States	4	22,2
Finland	4	22,2
Japan	1	5,6
England	2	11,1
Belgium	2	11,1
Norway	1	5,6
Germany	1	5,6
Romania	1	5,6
Hong Kong	1	5,6
Canada	1	5,6
<i>Language</i>		
English	18	100
<i>Journal area</i>		
Psychology	13	72,2
Education	2	11,1
Health	3	16,7
<b>Methodological</b>		
<i>Sample size</i>		
Less than 50	1	5,6
50-149	5	27,8
150-500	2	11,1
500 a 1000	3	16,7
Over 1000	7	38,8
<i>Control Group</i>		
No treatment	18	100
<i>Follow-up</i>		
Yes	6	33,3
No	12	66,7
<i>Follow-up period</i>		
No follow-up	12	66,7
12 months	6	33,3
<i>Sample loss</i>		
Less than 5	3	16,7
5 to 10	1	5,6
11 to 20	3	16,7
Over 20	8	44,4
Uninformed	3	16,7

### Multi-component or whole-school interventions

The seven studies that adopted a multi-component whole-school initiatives<sup>17-23</sup> included a strategy that combined classroom rules, lectures addressing bullying, activities with bullies/victims/bystanders, information provided to parents, increased supervision, disciplinary methods, cooperation between researchers and the school staff, training of teachers, and technological resources. All studies using this modality addressed samples of more than 500 participants.

Three studies were conducted in Finland and all of them involve a program called Kiva (Kiusaamista Vastaan/Against Bullying), which considers bullying to be a group phenomenon in which bystanders play an essential role, either encouraging bullies or standing up for the victims. It is developed through the implementation of activities within a universal scope, aiming to change group patterns, as well as through individual activities directed to specific cases. Other interventions involve the participation of students, parents and teachers. The Kiva program significantly reduced bullying ( $p < 0.001$ ) in the 1<sup>st</sup> to the 9<sup>th</sup> grades, included in a study comprising 888 schools<sup>18,20</sup> and in the 4<sup>th</sup> to 6<sup>th</sup> grade students ( $p < 0.01$ ) of 78 schools addressed by another study<sup>19</sup>.

The other four investigations<sup>17,21-23</sup> were based on the Olweus Bullying Prevention Program (ONPP), proposed by Dan Olweus. The objectives of the program were to promote a positive school environment and improve peer relationships at school, preventing and combating bullying. Bauer et al.<sup>21</sup> implemented and assessed this program among 6<sup>th</sup> to 9<sup>th</sup> grade students of ten schools in the city of Seattle, the United States. The program presented mixed effects, varying according to the gender, ethnicity and socioeconomic status of participants; that is, it did not achieve a positive effect from a global point of view. This is similar to a study conducted by Stevens et al.<sup>22</sup> in the city of Gante, Belgium, which addressed 10 to 16 years old students, which also found mixed effects in primary schools and no effect in secondary schools. On the other hand, significant effects were found ( $p < 0.001$ ) among 1<sup>st</sup> to 9<sup>th</sup> grade students with the implementation of the same program in 42 schools in Bergen, Norway<sup>23</sup>, and also in another study ( $p < 0.001$ ) conducted with 7<sup>th</sup> grade students in four schools in Hong Kong<sup>17</sup>.

and computer-based interventions. The main results of each study were synthesized and are presented according to type of intervention.

**Table 2.** Assessment of the studies' methodological quality.

Study	Research question (maximum 1)	Selection of subjects (maximum 6)	Assessment (maximum 2)	Confounding (maximum 1)	Statistical analysis (maximum 1)	Total (maximum 11)
24	1	6	2	1	0	10
25	1	6	2	1	0	10
17	1	6	2	1	0	10
26	1	6	2	1	0	10
18	1	6	2	1	1	11
19	1	6	2	1	0	10
27	1	6	2	1	0	10
20	1	6	2	1	1	11
28	1	6	2	0	0	9
29	1	6	2	1	1	11
21	1	6	2	1	0	10
30	1	6	2	1	0	10
31	1	6	2	1	0	10
32	1	6	2	1	0	10
33	1	6	2	1	0	10
22	1	6	2	0	0	9
34	1	6	2	1	1	11
23	1	6	2	0	0	9

### Interventions involving social skills training

Five papers reported interventions based on social skills training (SST)<sup>25,29,31-33</sup>. In general, the meetings addressed problem-solving capacity, positive thinking, relaxation, body language, ability to making friends, and how to deal with bullies, among others. DeRosier & Marcus<sup>31</sup> and Marcus<sup>32</sup> implemented SST among 3<sup>rd</sup> year students who were considered to be anxious, were rejected by peers or were aggressive, in 11 schools in Wake County of North Carolina, the United States. The intervention decreased bullying episodes ( $p < 0.05$ ) only among those considered aggressive. With the intention to lessen the bully status of 7<sup>th</sup> to 9<sup>th</sup> grade students from German schools, the study by Wolfer and Scheithauer<sup>25</sup> was successful in decreasing the social influence of bullies and, therefore, opportunities to perpetrate aggressions ( $p < 0.001$ ). These investigations were the only ones based on the training of social skills that clearly reduced bullying. Another two studies did not result in significant changes. One of them addressed 7<sup>th</sup> grade students (aged 12 years old on average) from a Japanese school<sup>29</sup>

and the other study was conducted among victims aged 9 years and six months, on average, from four English schools<sup>33</sup>.

### Bullying prevention integrated into curriculum

Curricular interventions regarding bullying refers to interventions that include all the students in a classroom and usually involve exposing content, collective discussions, role-playing, cooperative learning, and/or videos. Joronen et al.<sup>26</sup> implemented a role-playing program in a Finnish school in which 190 children, from the 4<sup>th</sup> and 5<sup>th</sup> grades, participated. The results showed significant improvement in regard to the occurrence of bullying ( $p < 0.05$ ). Another intervention conducted with 10 to 16 year old students from 25 Belgium schools with the objective of improving the attitude of peers toward bullying and to mediate conflicts between bullies and victims, reports positive improvement, however not improvement that is statistically significant<sup>34</sup>. The third study was conducted in Ontario, Canada and intended to promote the strengths of 4<sup>th</sup> to 8<sup>th</sup> grade students. It identified decreased



**Table 3.** Studies' characteristics.

Characteristics	n	%
<b>Participants</b>		
<i>Age</i>		
7 a 9	4	22,2
7 a 16	2	11,1
10 a 12	4	22,2
10 a 16	2	11,1
13 a 15	6	33,3
<i>Sex (% male)</i>		
0 a 49	1	5,6
50 a 59	17	94,4
<b>Intervention</b>		
<i>Strategy</i>		
Universal	14	77,8
Selective	4	22,2
<i>Approach</i>		
Cognitive	4	22,2
Cognitive-behavioral	14	77,8
<i>Number of sessions</i>		
1 a 5	4	22,2
6 a 10	8	44,4
11 a 20	2	11,1
Over 20	1	5,6
Uninformed	3	16,7
<i>Duration</i>		
Up to one month	3	16,7
1 to 2 months	3	16,7
3 to 4 months	2	11,1
7 to 12 months	6	33,3
Over 12 months	1	5,6
Uninformed	3	16,7
<i>Design</i>		
Individual	2	11,1
Group	16	89,9
<i>Administration</i>		
Teachers	13	72,2
Researchers	4	22,2
Psychologists	1	5,6

victimization over time, however, aggressions increased after the intervention ( $p < 0.01$ ) in comparison to data collected in the control study<sup>27</sup>.

### Computer-based interventions

Two computer-based interventions were assessed<sup>28,30</sup>. In one of them<sup>30</sup>, 6<sup>th</sup> to 10<sup>th</sup> grade stu-

dents from 25 schools in the United States participated in three computer sessions of 30 minutes duration each. These interventions aimed to decrease participation of students in bullying situations. Significant decrease was found among 6<sup>th</sup> to 8<sup>th</sup> grade students ( $p < 0.01$ ) and among 9<sup>th</sup> to 10<sup>th</sup> grades students ( $p < 0.001$ ). The second study<sup>28</sup> aimed to improve coping strategies of German and English students aged from 7 to 11 years old. This study also implemented three weekly 30-minute computer sessions. The results indicate that the intervention did not improve the students' knowledge concerning strategies to cope with bullying.

### Discussion

The papers selected for this systematic literature review presented high methodological quality, which ensures greater reliability of results, despite the fact that some studies did not consider confounding variables, which may have interfered in the results. Additionally, most of the studies did not present the confidence intervals for the statistical analyses. In general, the effectiveness of the different interventions designed to prevent or fight bullying varied according to the type of intervention, sociocultural context and age of students. There were situations in which bullying did not decrease significantly<sup>25-27,31-33</sup> and even increased after the intervention<sup>23</sup>. In regard to age, interventions were more efficient among older students. Note, however, that most studies included samples composed of participants older than 10 years old, which restricts the interpretation of results. That is, results may be biased due to the large amount of studies addressing older children. Despite this limitation, one possible explanation for this result is the fact that older students have more developed cognitive skills; they are more likely to understand the harmful nature of bullying or they are more likely to make rational decisions, which perhaps makes them more skilled in defending themselves dealing with aggression<sup>4</sup>.

Even though multi-component, whole-school interventions presented more positive results when compared to other approaches, note that the greatest effects were obtained with the implementation of the Kiva project as opposed to the OBPP proposed by Dan Olweus, which reports the smallest effects. This result is possibly associated with the fact that the Kiva program was applied in a single sociocultural context



**Table 4.** Interventions components.

Study	Interventions components																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
24	-	-	-	✓	-	-	-	-	-	✓	✓	-	-	-	-	-	✓	-	-	-
25	-	-	-	✓	-	-	-	-	✓	-	-	-	-	-	-	-	-	-	-	-
17	✓	✓	✓	✓	✓	✓	✓	✓	-	✓	✓	✓	✓	-	-	-	✓	✓	✓	-
26	-	-	-	✓	-	✓	-	-	✓	✓	-	-	-	-	-	-	✓	-	-	-
18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	✓	-	✓	✓
19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	✓	-	✓	✓
27	-	-	✓	-	-	✓	✓	✓	-	✓	✓	-	-	✓	-	-	✓	✓	-	-
20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	✓	-	✓	✓
28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	✓
29	-	-	-	✓	-	✓	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	✓	✓	✓	✓	✓	-	✓	✓	-	✓	✓	✓	-	-	-	-	✓	-	-	-
30	-	-	-	-	-	-	-	-	-	✓	✓	-	-	-	-	-	-	-	✓	✓
31	-	-	-	✓	-	✓	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-
32	-	-	-	✓	-	✓	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-
33	-	-	-	-	-	✓	-	✓	-	-	-	-	-	-	-	-	-	-	-	-
22	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	✓	-	✓	-	✓	-	✓	-
34	-	✓	-	✓	-	-	-	-	✓	-	-	-	-	-	-	-	-	-	✓	-
23	✓	✓	✓	✓	✓	✓	✓	✓	-	✓	✓	✓	✓	-	-	-	✓	✓	✓	-

Note. 1 = whole-school anti-bullying policy; 2 = classroom rules; 3 = school conferences providing information about bullying to pupils; 4 = curriculum materials; 5 = classroom management; 6 = cooperative group work among experts [e.g. among teachers, counselors and interns]; 7 = work with bullies; 8 = work with victims; 9 = work with peers [e.g. peer mediation; peer mentoring; peer group pressure as bystanders]; 10 = information for teachers; 11 = information for parents; 12 = increased playground supervision; 13 = disciplinary methods; 14 = non-punitive methods [e.g. 'Pikas' or 'No Blame Approach']; 15 = restorative justice approaches; 16 = school tribunals/ school bully courts; 17 = teacher training; 18 = parent training; 19 = videos; 20 = virtual reality environments/ computer games".

(Finland), that is, with greater ethnic, cultural and economic homogeneity, as well as the fact that the implementation of the program was more faithful to its planning, an aspect assessed monthly in each school participating in the program<sup>20</sup>. The OBPP in turn, was implemented and assessed in different contexts (in Belgium, United States, Hong Kong and Norway) without the same rigor in terms of assessing how closely the implementation was to the previous planning, such as was observed with the Kiva program. Thus, the mixed results presented by OBPP are perhaps related to the different ways each school implemented it, among other things. Generally, whole-school interventions are conducted only by the school staff, without specific training to meet all the requirements recommended by the

model, which because it is broader, is also more complex. Therefore, programs of this nature require monitoring and support to ensure they are implemented according to the way they were planned. In this sense, there are indications that cooperative work between researchers and the school staff is significantly related to decreased bullying<sup>35</sup>.

Despite these problems, a greater amount of components in the whole-school interventions may explain the greater efficacy of this intervention in decreasing bullying, when compared to the other interventions analyzed in this study. Such efficiency is probably due to the fact it addresses the complex nature of this phenomenon, in terms of subjects, contexts and circumstances involved in aggressions, as well as in the activities

included in the intervention<sup>2,20</sup>. For instance, the intervention considers that bullying is also associated with extra-school aspects; thus, families of students are included in an effort to fight and prevent bullying. This is one strong aspect of this modality that is significantly related to decreased acts of aggression<sup>11</sup>. Another important characteristic of this type of intervention is increased supervision on the part of adults on the school premises where aggressions are more likely to occur, especially external areas, entry ways, corridors, courtyards and sports areas; poor supervision has been associated with an increased number of aggressions within the school<sup>35</sup>. In general, the more extensive this type of intervention, the more efficacious it is<sup>35</sup>.

In terms of sociocultural differences, note that the larger effects of the programs that include interventions in the entire school occur in European countries, as opposed to what happens in the United States, a country in which not only this modality, but most interventions, achieve only minimum effect<sup>2</sup>. It is likely that specific characteristics of the school contexts under study or of American culture, in general, interfere in the quality of the results of interventions conducted in this country. Therefore, interventions should take into account the sociocultural context and consider the particularities of each place and culture, as revealed by the studies addressed in this review. The success obtained by a given intervention in a given context or school does not ensure success in another context or school.

The analysis of characteristics concerning planning, execution and assessment of the interventions involving the entire school that were analyzed in this review enables us to identify some limitations that may have influenced the results, in addition to the aspects previously discussed. The first limitation is the fact that most studies used only self-reported instruments, which are not sufficient or precise in detecting behavioral changes, especially because they may imply biases of perception and memory<sup>2</sup>. Another aspect is the lack of theoretical references supporting the planning, development and assessment of interventions. Additionally, many of school-wide interventions disregard geographical changes that may occur in the contexts under study, as well as certain characteristics of the participants' subgroups, which may impact the results, such as race/ethnicity and sexual orientation<sup>3</sup>. The objective to involve all students regardless of their participation in bullying (victims, bullies or bystanders) may equally impact the results because

usually only a small percentage of students are directly involved with the problem<sup>30</sup>. Therefore, investment in whole-school interventions adjusted to the profiles of individuals participating in bullying is needed in order to focus on the aspects that seem to be the most problematic for each subgroup and to achieve more promising results.

As opposed to the school-wide approach, other programs conceive more focused interventions. Some promoted anti-bullying actions only within the classroom or aimed to help students to develop social skills and conflict resolution. In regard to interventions directed to the improvement of social skills, only two programs achieved statistically positive results<sup>25,31,32</sup>. This may be explained by the understanding that bullying is a group phenomenon that involves victims, bullies, bystanders, teachers, school staff, and parents, and is also influenced by characteristics of the contexts in which it occurs, such as the classroom or the entire school<sup>3</sup>.

From this perspective, interventions addressing only one of those involved (victims, bullies or bystanders) are less likely to work, as was the case with the interventions focusing on social skills analyzed, above, in this review. Social skills-based interventions may be more effective among victims, as these individuals in general present deficits in terms of socialization and social relationships<sup>36</sup>. Additionally, in terms of methodology of social skills training, one has to consider difficulties of the recipients of the program in generalizing the skills learned for real daily situations. Hence, the success of this type of intervention is also linked to broader factors arising from the school context and from the way the intervention is implemented. Role-playing techniques may help to overcome this difficulty<sup>24</sup>.

One of the studies addressing a computer-based intervention reports no significant results, even though advancements in bullying investigations indicate that certain responses are more appropriate and efficient in regard to interrupting the cycle of aggressions. It is possible that the results of such limited significance from the computer-based program are due to the method itself or to the fact that, even though appropriate strategies were presented, they may be inefficient when used with chronically victimized children or adolescents who face difficulties in their interpersonal interactions. For instance, the way victims respond to bullies may either stop aggression or reinforce it, an outcome that mainly depends on how skillful s/he is in convincing the

bully that s/he is no longer as vulnerable as the bully thought<sup>2</sup>.

The mixed results achieved by the curricular interventions follow in the same direction of those related to social skills training because these seem to disregard aspects of other actors involved in the problem and of the contexts in which bullying occurs. These proposals are generally more attractive to education managers because they require fewer financial and human resources. The results, however, indicate that these are not particularly effective in preventing/fighting bullying, which, considering it is a sociocultural phenomenon, is the rule among peers. This may be another reason many programs achieve results that are not so encouraging, as this aspect is not taken into account. A possible approach in this context would be intervening with bystanders, seeking to change the way they respond to the aggression they witness, such as how the Kiva project addresses the problem, which considers bullying in the group context, focusing on working with peers from a whole-school perspective, involving the entire school. The three studies addressing the Kiva project analyzed in this review, presented statistically significant results.

### Final Considerations

The interventions analyzed in this review varied in regard to results and some of them presented positive effects, while others did not. One of these even verified increased frequency of bullying after the program was implemented. Whole-school interventions were the ones that obtained the

best results, suggesting that broader interventions are more efficacious in fighting bullying, perhaps because they consider it to be a complex phenomenon that goes beyond the dyadic relationship between bully and victim.

It is important to highlight that only studies conducted outside Brazil were included in this review, in accordance with the established criteria, which impeded concrete and specific reflection concerning the Brazilian context. Future literature reviews could consider the specificities of Brazilian papers addressing bullying interventions, especially in regard to qualitative approaches applied to the assessment of intervention processes and results. In regard to the production of papers in Brazil, it is important to make efforts to carry out national interventions based on experimental or quasi-experimental models with a view to compare results with interventions developed in different sociocultural contexts, to more objectively assess data from the Brazilian context and compare it to data collected in international contexts.

Finally, the identification of intervention models associated with the prevention or reduction of school bullying promoted by this literature review may have practical implications to the extent it may guide the planning and operationalization of intervention programs. Despite acknowledging that interventions need to be more effective, it is important to highlight that even small effects, as seen in some investigations, need to be valued because decreased school violence is always desirable, as any decrease positively impacts the psychosocial development of students.

## Collaborations

JL Silva worked on the concept, selection of texts, analysis and writing of the text; WA Oliveira worked on the selection of texts, analysis and writing of the text; FCM Mello worked on the analysis and critical revision; LS Andrade, MR Bazon and MAI Silva worked on the concept and critical revision.

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