

## Cooperative games as a pedagogical strategy for decreasing bullying in physical education: notable changes in behavior

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### Abstract:

**Problem:** the bullying have a big prevalence among children around the world, especially in the school. Today, this behavior is associated to depression, low self esteem, and, including suicide, becoming a very important public health problem. **Objectives:** to verify whether or not cooperative games are able to reduce bullying in Physical Education classes. **Propose:** a volunteer group of 240 individuals from two municipal schools in the capital and smaller city of Rondônia was selected, with a mean age of  $9.89 + 0.42$  years including both sexes. To verify the number of bullying incidents, the researchers observed five classes before and after an experimental intervention based exclusively on cooperative games, for 3 months in Physical Education classes lasting 60 minutes with two classes per week. The statistical treatment was descriptive through the mean and standard deviation and inferential by means of the "student t test" and a sensitivity of 5%. **Results:** occurrences of verbal aggression decreased by 85.7% and physical aggression decreased by 100%. **Conclusions:** cooperative games seem to reduce bullying in Physical Education classes suggesting that the cooperative games may be a strong tool to reduce the bullying.

**Key words:** physical education classroom, cooperative games, verbal violence, physical violence, bullying.

### Introduction

Violence can be characterized as a chronic and recurrent problem in the history of humanity and returns as a special conversational topic (BALLONE, 2007) representing a phenomenon that should be understood and treated with a multifactorial perspective by different professionals, including Physical Education Teachers and Professionals (TUBINO and MAYNARD, 2006).

For de Oliveira (2006) the author of the act of bullying is called a bully or "brave one", however, they are erroneously named so, since bullying is practiced against weaker people and therefore constitutes cowardice. Bullying is defined as an aggressive behavior that occurs repeatedly in an interpersonal relationship, where there is an imbalance of power (AESERNEALT, 2010).

For Ballone (2005), bullying may increase the risk of physical and psychosocial problems in all participants, not only in victims, but also in the bullies.

Studies have described that victims of bullying may experience various types of internalization problems, including anxiety, depression and low self-esteem (BOTELHO, 2007; BROTTTO, 2001). Capra (2001) states that victims may be at a higher risk of psychosis and Frizzo (2012) identified emotional dysfunction and temperamental deviations such as increased emotional sensitivity and development of depression on a larger scale than in people not involved in bullying.

Among the "brave ones," there is an increased risk of externalization problems, such as aggression and antisocial behavior, and victims of bullying are considered a distinct group with the most serious problems (BALOONE, 2005). Other studies have suggested that victims of bullying have high levels of aggression and depression while their academic competence, pro-social behavior, self-control, acceptance, and self-esteem are diminished. (DARIDO, 2007; BALLONE, 2005).

There is a variety of behaviors related to bullying, since things that are different or alternative are considered targets for mockery and bullying. (US DEPARTMENT OF EDUCATION, 1999). In other countries such as Japan, research has shown that up to 90% of students were bullied at some time between grades 4 and 9 at least once (AMAGASA, 2005) aggravating the depressive and introverted symptoms that may be associated with the increased incidence of suicide among young people in Japan, the country that presents the highest suicide rates. In another study, Schreier (2009) argues that ethnic and racial disparities among students in the same grade may be a predisposing factor to bullying.

With this, bullying has become an increasingly important issue for the well-being of adolescents, their academic and social performance, which may be carried into adulthood (HAWKER, 2000).

Thus, an intervention seems important, giving the present study importance and meaning. Leff (2013) considered an intervention, mainly for the prevention of bullying, a very important action in or out of schools, since this author presents a positive relation with psychological deviations, mental health, and thus, strives to increase efforts to identify effective strategies to combat this situation that is more and more common each day. Litwiller (2013) identified cyber bullying and physical bullying as being related to the increase in suicide cases or to the idea of suicide (UNDHEIM, 2013), demonstrating once again the urgency of strategies that combat this behavior.

In contrast, less is known about similar health issues among preadolescents. According to Haynie (2001), in this age range, generally a small number of participants have been involved, examining one or two health behaviors, or including only two racial and ethnic groups, suggesting that the disparities between these children may mirror those found among adolescents. Childhood and adolescence are the gateways to the promotion of health and behaviors that influence the rest of one's life, once again demonstrating the relevance of the current study.

Well-developed adolescents who were trained with appropriate life skills had a better chance of becoming healthy, responsible and productive adults, leading to greater possibilities for successful careers, increased productivity and progress (WHO, 2004). In this context, for most adolescents and especially children, school is the most important place outside the family. Perceptions of students in the school environment are significantly associated with their health and well-being.

Botelho (2007) states that in schools, manifestations of violence are directed at teachers, employees and students. Today, these manifestations of violence are becoming more and more frequent; for example, who didn't ever suffer aggressive jokes and insulting nicknames at school age with no justification? (PALACIOS, 2006). In principle, it is a worldwide problem found in every school, not being restricted to one institution or another, whether public or private, Catholic, Protestant, high or low social class (BOTELHO, 2007).

In the city of Rio de Janeiro in 2002, a study of 5,482 students from ten schools revealed that 16.9% of students were targets of bullying, 10.9% were targets and bullies themselves, 12.7% were bullies and 57, 5% reported having witnessed bullying. These figures are corroborated by Fante (2005), stating that bullying generates and feeds an explicit and/or veiled violence that has spread over the last few years; therefore, there is an emerging need to discover tools that reduce bullying in schools for reasons that have been well explained here.

Past studies leave no doubt that the cooperation vision provokes great reflection in the pupil on the dictatorial, exclusionary and individualistic principles and values present in our society that are apprehended automatically through social patterns reinforced by sportive body practices developed in Physical Education classes as a classroom strategy (BROTTO, 2001). However, one does not want to create subjects that are incapable of fighting for their rights, with no ability to compete for jobs, to battle for a better socioeconomic position or completely passive, non-proactive people, but rather to find instruments that are capable of providing a balanced psycho-bio-social development consistent with the requirements needed to form a politicized, critical and balanced citizen.

It seems then that Physical Education classes may represent a space for interaction and learning, to live together and enjoy each other helping the students to assimilate social and coexistence rules. In this perspective, cooperation cannot be seen as simply competing, but as an element that awakens in individuals another way of seeing other individuals and thus seeking to live with, not against others, thus intrinsically generating an idea of collaboration, a non-violent culture, and good relationships with one another (DARIDO, 2001; CORREIA, 2010).

With this understanding cooperative games appear to be an alternative to rescue important values that are devalued or not practiced socially, because, if one believes that the social environment influences behavior, one can, using cooperative games, work on social and affective relationships.

Considering all the possible problems and consequences that bullying can cause in the social life of the child, adolescent and even the adult, the importance of the school environment and the fundamental space that Physical Education classes may represent for the student, the present study aimed to verify whether or not cooperative games would be able to reduce cases of bullying in Physical Education classes.

**Material and methodes**

The present study obeyed the guidelines and deliberations from law 196/96 on all its points and was only initiated after approval by the Ethics and Research Council for Human Beings (CEPE) of the Lutheran University Center in Ji-Paraná (CEULJI/ULBRA) under protocol number 027/11. The study was descriptive and almost experimental, since it had an experimental group and randomness in the choice of schools and classes, and quantitative, because, it aimed to quantify and describe a phenomenon (THOMAS and NELSON, 2009).

**Voluntary group**

The volunteer group was made up of 120 students from the Nações Unidas State Elementary School in the city of Porto Velho and another 120 from São Pedro School of the City of Ji-Paraná including both sexes, from 1st grade to 5th grade with an average age of 9.89 + 0.42 years.

**Data collection instrument**

For data collection an instrument was formatted to quantify cases of physical and verbal aggression, bullying, with the sole objective of quantifying and classifying each case as verbal or physical.

The instrument was a single sheet of paper with two tables and a pen to fill them out. Two square tables were designed using the program Word. One of them had verbal aggression as its title and the other, physical aggression and both had enough space to record up to 35 occurrences. Two sheets like this were made available for each class distinctly. See the picture 1 for example.

VERBAL AGRESSIONS				

PHYSICAL AGRESSIONS				

Fig. 1. Image of the research instrument

**Methodology of data collection**

For data collection, the researchers observed five classes before and after the intervention period. The simple arithmetic mean was calculated and a comparison was made of the number of occurrences of bullying by means of descriptive statistics using the occurrence average and the standard deviation of the mean.

Then, as a measure of intervention, a methodology of cooperative games was applied for three months together with the teachers at the school who completely adhered to the project after some conversations and meetings to adjust the possibilities and applications of the project. After three months of intervention, the baseline data collection methodology was repeated in the same manner in order to collect data for comparison.

**Preparation of the experiment and intervention**

Preparation of the lesson methodology was done together with the teachers at the schools, in order to adapt all the procedures to the reality of the schools, from the start to end date, as well as the planning of the course and class plan and after consecutive meetings with teachers, coordinators, and principals, the whole experiment and experimental situation were adjusted and settled between the parties.

**Data collection procedures**

The researcher, after proper authorization from the school and planning with the Teachers and Coordinators at the selected schools, planned the methodology of data collection according to the political pedagogical project based on the following chart:

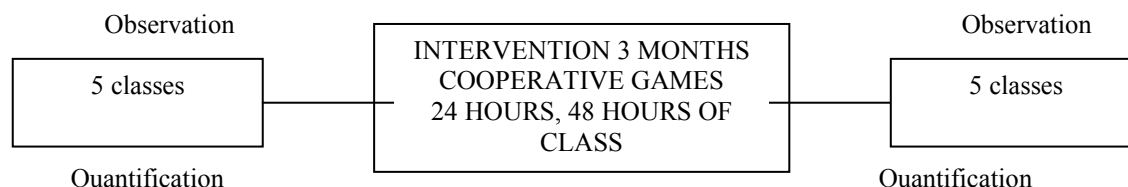


Fig. 2. Organization chart of the study's experimental protocol

Before the intervention and after the students were used to the presence of the researcher during Physical Education classes, in order to minimize the interference that the presence of this "strange subject" to the classes might cause, the researchers observed and noted on a simple instrument the number of verbal assaults

such as name-calling, pejorative nicknames and shouts, and physical assaults such as showing, punching, kicking, throwing classroom material, and anything else that could put the physical integrity of students at risk on their data collecting instrument.

During a period of three months the voluntary group was submitted to Physical Education classes that exclusively used pedagogical content composed of cooperative games. There were two meetings per week with an average duration of 60 minutes per meeting. It is worth mentioning that all the phases of the class were respected with a warm-up, the main part and a cool-down. The main part was composed of cooperative games diminishing the influence of another methodology or any kind of game that was different from the proposal.

The classes were taught by the school's own Physical Education teacher. The methodology of the classes and the form of application were previously agreed upon with the class teacher in order to control this variable. All lesson plans were made with the participation of researchers in order to ensure the reliability and correct application of the proposed method. It should be emphasized that the group had not previously undergone this type of methodology, and the cooperative games were inserted as a unique class strategy at the beginning of the interventional period of the study.

### Statistical treatment

The statistical treatment was descriptive by using the mean and standard deviation and inferential by means of the independent “**student t test**” with a significance of 5%.

### Results

#### The cooperative games may decrease the bullying during the physical education classes

It became evident that cooperative games were able to reduce cases of Physical and Verbal Bullying in an expressive way.

Prior to the ninety-day intervention with cooperative games, there was an average of  $14 \pm 4.18$  Physical Bullying events and after, zero ( $p < 0.0001$ ) (Fig. 1A). For Verbal Bullying prior to intervention, averages of  $21 \pm 5.7$  events and after  $3.2 \pm 1.92$  ( $p = 0.0002$ ) (Fig. 1B) were calculated.

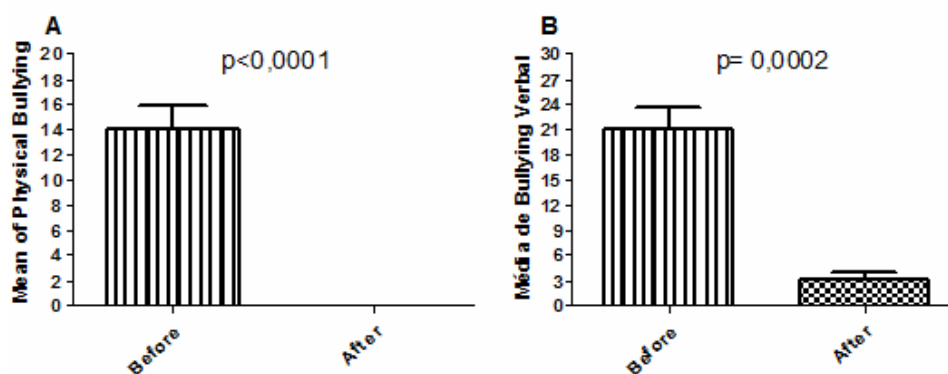


Fig. 2. Results of physical aggression before and after intervention with cooperative games. Students from two schools ( $n = 240$ ) were submitted to ninety days of classroom methodology exclusively with cooperative games.

The pretest (average of 5 classes of observation) obtained  $14 \pm 4.18$  occurrences, while, after ninety days of intervention, zero cases of Physical Bullying were observed. Verbal Bullying before the intervention obtained an average of  $21 \pm 5.7$  occurrences and after ninety days of intervention,  $3.2 \pm 1.92$  occurrences. (A) Average Physical Bullying. (B) Average Verbal Bullying.

### Discussion

Cooperative games do not promote competitiveness but rather cooperation including among people with different physical abilities. Based on this characteristic, we investigated whether or not this modality could reduce bullying in schools.

Schreider (2009) described that child victims of bullying have symptoms and psychosis caused by their victimization leading one to believe that the psychological effects of bullying can be devastating. This is corroborated by Botelho (2007) in investigating intervention strategies by Veenstra (2005) in observing the effects of bullying in an elementary school on bullies, victims and children who were not involved; in Brotto (2001) who had already researched cooperative games as an exercise of coexistence and also in Marques (2005) who had a very similar line of investigation in the same sense. Therefore, searching for truly effective tools against bullying in schools or other environments becomes important.

Capra (2001) identified that if current conceptions of crises and problems in our civilization continue, along with ethical and scientific paradigms, problems like bullying are difficult to be solved or diminished in a satisfactory way.

The line that divides the aggressive attitudes of competitive reactions in Physical Education classes is very tenuous given our current society where cooperative games may emerge as an instrument of intervention for the reduction of different episodes of verbal and physical violence, or in other words, bullying. (SCHUARTZ & FILHO, 2006 and BROTO, 1999).

Brotto (1999) points out that this convergence of efforts is important in stimulating and disseminating practices of solidarity and cooperation in order to guarantee the exercise of full citizenship and the extension of basic rights. This requires a profound change of attitudes and values instead of individualism.

In this context, Physical Education in schools emerges with its instrumentality to assert itself as a tool, because its nature, in several aspects, is propitious to deal with issues that other subjects do not approach as precisely, such as in psychomotor, cognitive and affective objectives (BROTTO, 2001).

Brotto (2001) argues that the main challenge seems to be to collaborate in the shortening of distances, borders and people constituting a permanent exercise of philosophical-pedagogical revision. The data found here demonstrate the tendency of cooperative games to reduce cases of bullying in schools.

The data obtained in the present study demonstrate that verbal aggressions decreased seven-fold and physical ones 14-fold achieving a complete absence of physical aggressions.

These data demonstrate a robustness to consider cooperative games as a tool in decreasing aggressive behavior. In a study carried out by Sisto (2000) with 1281 students from four elementary schools, he showed that the students perceived a greater amount of aggressive situations with their families than at school, a fact that may be related to the popular belief that physical aggression alone is considered aggression. The data from the present study demonstrate that physical and verbal aggression is present in schools at different times and in different ways than in the family. Thus, we investigated cases of physical and verbal aggression, both of which were considered bullying and treated them as unique data.

As a result of the intervention with cooperative games, a decrease in bullying was expected. This tendency was evidenced.

According to Furtado (2007), physical (slaps, punches and kicks), verbal (nicknames, profanity) and psychological assaults (jokes, threats) by students are commonly found in schools. These data corroborate the data found here when demonstrating cases of bullying. The aggressions occurred in certain repetitive patterns, for no apparent reason and always aimed at the more timid students, which corroborates Fante (2005), for whom bullying encompasses all forms of aggression, done repetitively, for no reason, directed primarily toward the weakest people.

Bullying is considered a worldwide problem, since it is found in all schools; it has spread widely in recent years, but it has only recently been studied in our country.

Throughout the world, prevalence rates of bullying, reveal that between 5% and 35% of students are involved in the phenomenon. In Brazil, in public and private educational establishments in São Paulo, 49% of students were shown to be involved in the phenomenon. Of these, 22% were "victims"; 15% "aggressors" and 12% "victim-aggressors".

The causes of this type of abusive behavior are innumerable and varied and are attributed to affective deprivation, lack of limits, and the way parents affirm their power and authority over their children through "educational practices" that include physical maltreatment and violent emotional outbursts.

This behavioral phenomenon victimizes children at an early age, making them hostage to anxiety and emotions that negatively interfere in their learning processes due to the excessive mobilization of emotions of fear, anguish and repressed anger making bullying a problem twice over for schools. The strong traumatic emotional load will interfere with the development of self-perception and self-esteem, compromising their capacity for self-improvement, academic performance and emotional competence.

Thus, the results of the present study demonstrate that the adopted classroom strategy showed a tendency to decrease bullying in schools after a few weeks of intervention. On the other hand, it may never be possible to reach zero cases of bullying because Bullying victims became bullies themselves, demonstrating a possible vicious cycle providing a continual renewal throughout generations. (SOLBERG, 2007).

In a further bias, Nielsen (2012) demonstrated that a Bully can exercise leadership and that his influence might also direct others to this practice. Hutchinson (2012) identified a similar relationship between leadership and the use of emotional intelligence in work environments (NIELSEN, 2012). This transfer to the adult work environment alone demonstrates the importance of finding and quantifying tools to combat this behavior so that it is not repeated in adult life.

As a result of Bullying, Frizzo (2012) demonstrated that victims of bullying present emotional dysfunction corroborated by Kumpulainen (2000) and Arseneault (2010) including Litwiller suicidal tendencies (2013). In a study by Silva (2010) conducted at a school in Porto Velho among the 33 students in the 5th grade, 17 (51.5%) were male and practiced physical and verbal bullying.

Unlike the studies that attempted to contain and treat bullying, the effects of cooperative games are primarily for prevention.

Cooperative games seem to be effective as a tool to prevent violent behavior. In this context, Physical Education in schools emerges as a robust instrument, especially when it does not stimulate the competitiveness and sportsmanship that often are confused with relationships of superiority and inferiority. The present study believes in the affirmation that Physical Education in schools is an interesting instrument for decreasing violent events in schools.

These affirmations and our aspirations are in line with one another, since the postulated hypothesis was that the cooperative games would be an effective instrument to reduce bullying in schools proven by the data herein presented. In this context, because the weakest ones are always the target, cooperative games by their nature avoid comparisons of performances and abilities, since all these games seek to include different people and the cooperation between people diminishes the competitiveness and possibly the animosity between the pairs, allowing for integration between boys and girls even if they have different ages and physical abilities.

### Conclusions

Although Physical Education classes are considered by many students, teachers, parents of students and others to simply be recreation time, it is evident that it can contribute to a change in behavior. In this way, the cooperative attitude of the activities may promote behavioral modifications that are likely to be definitive and lasting.

The data from the present study demonstrate an important tendency of reduction in bullying after a three-month intervention with cooperative games; it then seems correct to affirm that cooperative games tend to reduce cases of bullying in schools in an effective way and promote a remarkable change in behavior among students within schools, the second most important environment for a child.

It is recommended that the present study be extended to other ages and educational levels seeking to identify whether or not the perceived behavioral changes are noticed in other spheres of the learner's life like the classroom in other school subjects, in family life and with peers of the same age in other out-of-school settings.

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