

Cooperative Games and the Bullying in Physical Education Classes: A Psychometric and Behavioural Evaluation

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Abstract

Introduction: *with the increase in bullying in school and physical education classes, it is important to find effective alternatives to reduce this behaviour and psychometric assessments can help study this phenomenon.*

Objectives: *To verify whether cooperative games can reduce bullying in School Physical Education classes.*

Methods: *a volunteer group of 120 children were selected, divided into 4 classes of two municipal schools in the capital of Rio Branco, with an average age of 8.61 ± 0.75 years of both sexes. To verify the effect of cooperative games in physical education classes, five classes were followed before and after the intervention period to quantify bullying by a psychometric instrument. The intervention was with cooperative games, for three months, two classes per week, 60 minutes per class. Previously, the researchers went to school to replan the wards of the class's regent teachers to effectively exchange all activities for cooperative games. The statistical treatment was descriptive and inferential through the student's t-test with a significance of 5%.*

Results: *there was a marked decrease in verbal aggression and the absence of physical aggression after the intervention.*

Marcelo do Carmo Faria, Joy Braga Cavalcante, Cauane Schaostefani Darling Lee Ferreira-da-Silva, Kennedy Maia dos Santos, Fabio Nascimento da Silva, Andrea Carmen Guimarães, Vernon Furtado da Silva, Rosely Valéria Rodrigues, Brisa D'louar Costa Maia, Jani Cleria Pereira Bezerra, Estevão Scudese, Fabiana Rodrigues Scartoni, Renata Alves de Andrade Moreira, Delson Lustosa de Figueiredo, Divaldo Martins de Souza, Elizabeth Carvalho Lugão, Angela Maria Moed Lopes, João Rafael Valentim-Silva– **Cooperative Games and the Bullying in Physical Education Classes: A Psychometric and Behavioural Evaluation**

***Conclusions:** it seems correct to state that cooperative games are a robust tool to decrease bullying in Physical Education classes and modify behaviour.*

Keywords: Physical education, cooperative games, violence, bullying.

INTRODUCTION

Violence can be characterized as a chronic and recurrent problem in the history of humanity and currently returns as a subject that occupies a special place in conversations (SILVA, 2016) representing a phenomenon to be understood and treated from a multifactorial perspective by different professionals, including Teachers and Physical Education Professionals (TUBINO and MAYNARD, 2006). For Sales (2019) the author of the act of bullying is called bully or bully, in Portuguese, however, erroneously called so, because bullying is practised against weaker people and, therefore, constitutes cowardice. Bullying is defined as aggressive behaviour that occurs repeatedly in interpersonal relationships, where there is an imbalance of power (MAYO, 2019).

To (SILVA, 2016), bullying can increase the risk of physical and psychosocial problems in all participants, not only in victims but also in bullies. Studies have found that victims of bullying may experience various types of internalization problems, including anxiety, depression and low self-esteem (COAQUIRA, 2018; DA COSTA PACHECO, 2008). Araújo (2019) states that victims may be at high risk of psychosis and Quintana-Orts (2019) 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 "bullies", increased risk of outsourcing problems, such as aggression and antisocial behaviours was reported (Da Silva,2019). Victims of bullying are considered a distinct group with the most serious problems (SILVA, 2016). Studies have suggested that victims of bullying are at high levels of aggression, depression and decreased academic competence, prosocial behaviour, self-control, acceptance and self-esteem. (ALVES, 2018; SILVA, 2016). In different countries such as Japan, research has shown that up to 90% of students have been bullied at some point between 4th and 9th grade at least once (LEE, 2019) aggravating depressive and introverted symptoms that may be associated with an increased incidence of suicide among young people

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in Japan. In another paper, PICKARD (2019) states that ethnic and racial disparities between students in the same grade can be a predisposing factor to bullying. With this bullying has become an increasingly important issue for the well-being of adolescents, their school and social performance and can be taken into adulthood (GAFFNEY, 2019).

Waasdorp (2019) is considered an important intervention and, mainly, the prevention of bullying because it has a positive relationship with psychological deviations, and mental health, and thus should increase efforts to identify effective strategies to combat bullying. Kim (2019) identified that "cyber bullying" and physical bullying have a relationship with the increase in suicide cases or the idea of suicide (ROEDER, 2018).

There are a variety of bullying-related behaviours, as the different and alternative one is considered a target for laughingstock and bullying (Zych, 2019). In contrast, less is known about similar health-related issues among pre-adolescents. According to Haynie (2001), studies in this age group have generally involved a small number of participants, examined one or two health behaviours, or included only two racial and ethnic groups, suggesting that disparities between these children may mirror those that were found among adolescents.

Childhood and adolescence are the gateways to health and behavioural promotion that influence them for the rest of their lives. 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 (OLIVEIRA, 2017). This is the ideal time to work on fundamental psychological issues because the resolution of problems, traumas and blockages at this age will be reflected throughout the adult vid. Thus, for most adolescents and, especially children, the school represents the most important place outside the family, which allows an excellent opportunity for the development of good or bad habits and behaviours, which, leads to students' perceptions that the school environment is significantly associated with health and well-being.

In the school environment, manifestations of violence are directed at teachers, staff and students. Today, these manifestations of violence are becoming more and more frequent, for example, who did not suffer aggressive jokes and pejorative nicknames in school season without justification? (VIANNA, 2015). In principle, it is a worldwide problem found in any schools

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that are not restricted to one or another institution, public or private, Catholic, Protestant, high or low social class (COAQUIRA, 2018).

In the city of Rio de Janeiro in 2002, a study of 5,482 students from ten schools revealed that 16.9% of the students were bullied, 10.9% were targets and authors, 12.7% called themselves authors and 57.5% reported having been witnesses of bullying. These figures are corroborated by Fante (2005) in stating that bullying generates and feeds an explicit and/or veiled violence disseminated in recent years. In this context, the need to discover tools that reduce bullying emerges.

Research plans, leave no doubt that the view of cooperation provokes in the student a great reflection on the principles and dictatorial values, exclusionary and individualistic, present in our society that is automatically apprehended through social standards reinforced by sports body practices developed in school Physical Education classes as a class strategy (DA COSTA PACHECO, 2008).

It is not desired to create subjects unable to fight for rights, without the ability to compete for jobs, to fight for better socio-economic placement or completely passive people without pro-activity, but rather we want to find instruments that are capable of providing a balanced psycho-bio-social development consistent with the requirements for the formation of a politicized citizen, critical and balanced.

It seems that physical education classes can represent a space of interaction and learning, to live with and have fun helping students to assimilate social and coexistence rules. In this perspective, cooperation cannot be understood as simply competing, but as an element that awakens in individuals, another way of seeing other individuals and thus seeking to live with, and not against the other, thus intrinsically generating an idea of collaboration, and culture of non-violence, and the good to relate to the other (ALVES, 2018).

Preliminary data of our group investigated a similar approach in another community describing strong results (OLIVEIRA *et al.*, 2017), and here, we are revisiting this in another state of the federation, and the hypothesis is that this intervention will be beneficial against the bullying in the Physical Education Classes in a Federal School. In this understanding, cooperative games emerge as an alternative to rescue important values, however, devalued or little socially practiced, because, when it is believed that the social environment influences behaviour, one can, from the cooperative games, work social and affective relations. Considering all the potential

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problems and consequences that bullying can cause in the life of children, adolescents and even adults, the present study aimed to verify whether cooperative games would be able to reduce cases of bullying at school.

METHODOLOGY

Research Ethics

The present study followed the guidelines and deliberations of law 196/96 on all its points and was only initiated after the approval of the Ethics and Research Council in Human Beings (CEPE) of the Lutheran University Center of Ji-Paraná (CEUL JIJ/ULBRA) under protocol number 027/11 and later an adhering approved by the Federal University of Rondônia under the number of CAAE 67198217.0.0000.5524.

Search type

The research was descriptive, almost experimental through an action research methodology because it had an experimental group and randomness in the choice of schools, and classes of them and quantitative, because it aimed to quantify and describe a phenomenon (PROVDANOV; FREITAS, 2013).

Volunteer group

The volunteer group consisted of 120 students from Physical Education classes from two schools in the capital of Acre. The classes surveyed were of elementary school students (1st to 5th grade) with a mean age of 8.61 ± 0.75 years of both sexes.

Methodological paths

Initially, the researchers outlined five stages: (1) Planning, (2) Diagnostic Observation, (3) Pedagogical Intervention, (4) Comparative Assessment/Observation and (5) Analysis.

The first stage, planning, was conducted during the pedagogical week at the beginning of the school semester. This phase, in turn, had two phases, one analysis of the planning of the class activities already used by the teacher and 2 replanning for the adequacy of the lesson plans based on cooperative activities to be applied at the time of the pedagogical intervention, therefore, after the period of diagnostic observation.

Marcelo do Carmo Faria, Joy Braga Cavalcante, Cauane Schaostefani Darling Lee Ferreira-da-Silva, Kennedy Maia dos Santos, Fabio Nascimento da Silva, Andrea Carmen Guimarães, Vernon Furtado da Silva, Rosely Valéria Rodrigues, Brisa D'louar Costa Maia, Jani Cleria Pereira Bezerra, Estevão Scudese, Fabiana Rodrigues Scartoni, Renata Alves de Andrade Moreira, Delson Lustosa de Figueiredo, Divaldo Martins de Souza, Elizabeth Carvalho Lugão, Angela Maria Moed Lopes, João Rafael Valentim-Silva– **Cooperative Games and the Bullying in Physical Education Classes: A Psychometric and Behavioural Evaluation**

The second stage, diagnostic observation, was performed during the first month of the class, which had five meetings for each group surveyed. In this phase, the researchers observed, quantified, and classified bullying events into verbal aggressions and physical aggressions. Both were noted in the data collection instrument.

The third stage, pedagogical intervention, was characterized by the application of the methodology that had been proposed in the second phase of step 1 (replanning).

After the pedagogical intervention period, the fourth stage, evaluative observation, was initiated, which was like the second stage characterized by new observation, quantification, and qualification of bullying events. This step aimed to collect comparison data with the second phase of this research.

Finally, the fifth stage has performed the analysis and comparison of the data collected in the second and fourth stages to verify differences in behaviour about Bullying after the pedagogical intervention based on cooperative games.

Immediately to the Diagnostic Observation phase, however, after the planning phase, the researchers were in the classroom for five meetings, with the purpose of the students getting used to the presence of a "strange element" into the classes since it could modify the behaviour.

The researchers observed and noted verbal assaults such as name-calling, derogatory nicknames and shouting, and physical assaults such as jerks, punches, kicks, throwing some class material, and anything else that could put students' physical integrity at risk in their data collection instrument.

It is emphasized that the classes were taught by the physical education teacher at the school following the methodology proposed in the planning phase.

Data collection instrument used in observations

For data collection, an instrument was formatted to quantify cases of physical and verbal aggression (bullying), to quantify and qualify each identified event. The instrument was composed of a simple sheet of paper with two tables and a pen for the completion of this instrument. Two tables were drawn in the Word program. In one of them there was in its header the identification "VERBAL AGGRESSIONS" and in the other, "PHYSICAL AGGRESSIONS"

Statistical treatment

The statistical treatment was descriptive containing the mean of the cases of bullying before and after the intervention. Before the group's consideration as single, a statistic was performed to verify the normality of the data through the Shapiro-Wilks test that showed normality. A later test to point out the possible differences between the classes of the interior and the capital was performed using a "t" test of students with a significance of 5% who did not show differences ($P>0.05$); therefore, a single group was formed to interpret the data. The graphics were produced in the Graph Pad Prism 5.0 program.

RESULTS

An intervention of Cooperative Games promoted a strong reduction in verbal and physical aggression in physical education classes.

During the Diagnostic Evaluation, an average of 13.65 ± 1.42 physical aggression events was noted, while in the Comparative Assessment the mean reached 0.65 ± 0.67 ($p > 0.05$) and, on some days of collection, reached zero, being, therefore, up to 14 times lower after the Pedagogical Intervention based on Cooperative Games evident in Figure 1. Regarding verbal aggressions, an average of 21.5 ± 1.11 verbal aggression events was noted, while in the Comparative Assessment the mean reached 2.3 ± 0.92 ($p > 0.05$), demonstrating up to 9.3 times fewer events related to verbal bullying shown in Figure 1.

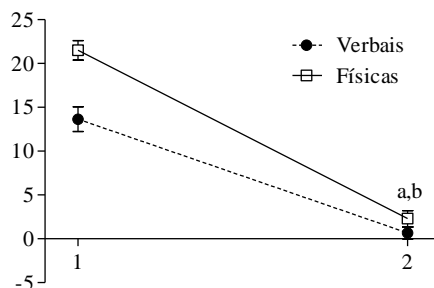


Figure 1: demonstration of the number of events of verbal aggression (Bullying). After three months of a Pedagogical Intervention based on Cooperative Games, there was a marked decrease in bullying events in Physical Education classes. Between the diagnostic evaluation (1) and the comparative evaluation (2), an important decrease in cases of Physical and Verbal Bullying was evident. The statistics used were descriptive using the mean.

Marcelo do Carmo Faria, Joy Braga Cavalcante, Cauane Schaostefani Darling Lee Ferreira-da-Silva, Kennedy Maia dos Santos, Fabio Nascimento da Silva, Andrea Carmen Guimarães, Vernon Furtado da Silva, Rosely Valéria Rodrigues, Brisa D'louar Costa Maia, Jani Cleria Pereira Bezerra, Estevão Scudese, Fabiana Rodrigues Scartoni, Renata Alves de Andrade Moreira, Delson Lustosa de Figueiredo, Divaldo Martins de Souza, Elizabeth Carvalho Lugão, Angela Maria Moed Lopes, João Rafael Valentim-Silva– **Cooperative Games and the Bullying in Physical Education Classes: A Psychometric and Behavioural Evaluation**

DISCUSSION

Cooperative games have the characteristic of not promoting competitiveness but cooperation including people of different physical abilities. Based on this characteristic, it was sought here to investigate whether this modality could decrease bullying in school. Here, it was evident that cooperative games can reduce verbal and physical weight, which, by analogy, can be affirmed that bullying has decreased in physical education classes. This suggests that cooperative games can be an effective tool for preventing and combating bullying since there was a significant change in behaviour in Physical Education classes, in proportions similar to what had been previously investigated in the state of Rondônia (OLIVEIRA *et al.*, 2017).

Pickard (2019) described those children who are bullied have symptoms and psychosis caused by their victimization leading to the belief that the psychological effects of bullying can be devastating. This fact is corroborated by Coaquira (2018) when investigating intervention strategies, and b ARSENEAULT (2018) when summarizing the findings and the impact it is being to be bullied in childhood or adolescence. Da Costa Pacheco (2008) had already researched cooperative games as a coexistence exercise in Rebolo (2019) which had a similar line of investigation in the same direction. Therefore, the investigation of effective tools against bullying at school or in other environments becomes important.

Araújo (2019), identifies that if the current conceptions of crises and problems of civilization are maintained, as well as ethical and scientific paradigms, problems such as bullying will hardly be solved or reduced satisfactorily.

The line that divides the aggressive attitudes of competitive reactions in school Physical Education classes is very tenuous given the training that is today where cooperative games can emerge as an intervention instrument for the reduction of different episodes of verbal and physical violence, that is, bullying (SANTOS, 2019).

Da Costa Pacheco (2008) recalls that this convergence of efforts is important to stimulate and disseminate practices of solidarity and cooperation to ensure the exercise of full citizenship and the expansion of basic rights. This requires a profound change of attitudes and values, in place of individualism.

In this context, school Physical Education emerges with its instrument to assert itself as a tool, because its nature, in many

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aspects, favourable able to deal with issues that other disciplines do not reach as accurately as in psychomotor, cognitive, and affective objectives (DA COSTA PACHECO, 2008).

Da Costa Pacheco (2008) states that the main challenge seems to be to collaborate for the shortening of distances, borders and people constituting a permanent exercise of philosophical-pedagogical review. The data found here demonstrate the trend of cooperative games in reducing cases of bullying in school.

The data obtained in the present study show that verbal aggressions decreased seven-fold and physical aggressions fourteen times reaching the complete absence of physical aggression.

These data demonstrate robustness that leads to the consideration of cooperative games as a powerful tool in reducing aggressive behaviour. A study conducted by Joly (2009) with 758 Brazilian students from 2nd to 4th grade of both sexes, demonstrated that students perceived a greater number of aggressive situations in the family than in school, a fact that may be more related to the popular belief that only physical aggression is considered aggression. The data of the present research show that physical and verbal aggression are present in the school at various times and in different ways and the family. Thus, cases of physical and verbal aggression were investigated here, both as bullying and treated as single data.

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As an effect of intervention with cooperative games, it was expected a decrease in cases of bullying. This trend was evident. Oliveira (2013) states that physical aggressions (slaps, punches, and kicks), verbal (nicknames, profanity) and psychological (mockery, threats) by students are commonly existing in the school. These data corroborate the data found here when demonstrating a high number of verbal and physical aggression events, characterizing Bullying. The aggressions occurred in certain repetitive

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patterns, without apparent reason and were always directed at the shyest, which corroborates the one exposed by Oliboni (2019) for which Bullying means encompassing all forms of aggression, made repetitively, without reason, directed primarily to the weakest people and, especially, with those who demonstrated less skill or motor development.

Bullying has been considered a problem of world order because it is found in all schools, and has been widespread in recent years, but it has only recently been studied in our country. Worldwide, bullying prevalence rates show *that between 5% and 35% of students engage in the phenomenon*. In Brazil, in public and private educational establishments in São Paulo, it was demonstrated that 49% of the students participated in the phenomenon. Of these, 22% were "victims"; 15% as "aggressors" and 12% as "aggressorvictims". These data suggest that the problem in Brazilian schools is as great or even greater than in many schools outside the country.

The causes of this type of abusive behaviour are numerous and varied and attributed to affective neediness, the absence of limits and the way parents affirm power and authority over their children, through "educational practices" that include physical abuse and violent emotional outbursts.

This behavioural phenomenon victimizes the child, at early school age, making them hostage to anxiety and emotions, which negatively interfere in their learning processes due to the excessive mobilization of emotions of fear, anguish and repressed anger making bullying doubly a school problem. The strong traumatic emotional burden will interfere in the development of self-perception and self-esteem, compromising their capacity for self-overcoming, school performance and emotional competence, importantly in this investigation and making urgent the discovery of alternatives.

Thus, the results of the present study show that the class strategy adopted showed a tendency to decrease bullying at school after a few weeks of intervention. On the other hand, it may never be possible to reach zero cases of Bullying because victims of Bullying became bullying practitioners demonstrating a possible vicious cycle providing a renewal of generations continuously. (RUNIONS, 2019).

In another bias, NIELSEN (2019) demonstrated that a Bullie can exercise leadership and that its influence could also direct others to this practice. Tucker (2019) identified a similar relationship between leadership and the use of emotional intelligence in work environments (NIELSEN, 2019). This transfer to the adult work environment alone demonstrates the importance of finding and qualifying tools in combating this behaviour so that

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it is not repeated in adulthood, evidencing once again the emergence of these studies.

As an effect of Bullying, Quintana-Orts (2019) demonstrated that victims of bullying have an emotional dysfunction corroborated by ZHANG (2019) and MAYO (2019) including suicidal tendencies Kim (2019). In a study by Silva (2010) conducted in a school in Porto Velho among the thirty-three students in the 5th year, 17 (15.15%) were male and physical and verbal bullying practitioners.

Unlike the work that has tried to contain and treat Bullying, the effects of cooperative games are primarily in prevention. Cooperative games seem to be effective as an instrument for preventing violent behaviour. In this context, school physical education emerges as a robust instrument, especially when it does not stimulate competitiveness and sportsmanship that is often confused with relationships of superiority and inferiority.

The present work believes in the statement that School Physical Education is a robust and powerful instrument to reduce the events of violence in the school. A difficulty of the previous study was to determine whether the same results were reproducible in another reality and, the present study shows that yes, equivalent results were found in two states, and although in the same geographic region of the country, there is a very different social and economic reality between the two states.

These statements and our aspirations are in line because the hypothesis postulated was that cooperative games would be an effective tool for reducing bullying in School Physical Education classes, a fact that was strongly suggested by the data shown here. In this context, as the weakest are always the target, cooperative games, due to their nature, avoid scans of performances and abilities, because all these games seek to include different people since cooperation between people decreases competitiveness and possibly animosity among peers, also enabling integration between boys and girls including different ages and physical abilities.

CONCLUSIONS AND CONSIDERATIONS

Although Physical Education classes are considered by many students, teachers, parents of students and others as a simple time of recreation it was evident that they can contribute to a change in behaviour. Thus, the cooperative attitude of the activities can promote behavioural changes, probably definitive and lasting. The data of this research demonstrate an

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important trend of decrease in Bullying in School Physical Education classes after a Pedagogical Intervention based on cooperative games for only three months, seeming correct to state, therefore, that cooperative games tend to decrease cases of Bullying promoting remarkable behaviour change among schoolchildren within the school, the second most important of the child's environments.

It is recommended that this investigation be extended to other ages, and educational levels seeking to identify whether perceived behavioural changes are noted in other spheres of the student's life, such as in the classroom in other disciplines, in family life and with peers of the same age in other environments outside the school.

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