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ORIGINAL

STUDY OF CONFLICTS IN GAMES PLAYED DURING PRIMARY SCHOOL PHYSICAL EDUCATION CLASSES

ESTUDIO DE LOS CONFLICTOS EN EL JUEGO EN EDUCACIÓN FÍSICA EN PRIMARIA

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ABSTRACT

This study investigated the types of motor conflict arising in four kinds of games (psychomotor, cooperation, opposition and cooperation-opposition) played in the context of primary school physical education classes. This was a multi-subject, single-case study (n = 43 students, 21 boys and 22 girls aged between 8 and 11 years). The class teacher had a dual role as participant researcher and educator. A total of 255 games were studied, in which 747 motor conflicts arose. An inferential statistical analysis (univariate and multivariate logistic regression) was used to investigate the origin of and response to each motor conflict, as well as the

relationship between these two aspects. The results revealed high levels of conflict among these students. The different types of conflict were also found to be related to the family of motor games in which they arose.

Key words: conflict, physical education, primary school, games

RESUMEN

Este estudio investigó los conflictos motores (CM) surgidos en los juegos realizados en clases de educación física en un centro de educación primaria. Se examinaron los conflictos que se originaron en cuatro clases de juegos (psicomotores, cooperación, oposición y cooperación-oposición). Se trata de un estudio de caso único ramificado multisujeto ($n = 43$ estudiantes, 21 niños y 22 niñas, de entre 8 y 11 años de edad). El profesor compartió el rol de investigador participante y de docente. Se aplicaron 255 juegos que originaron 747 CM. El análisis estadístico inferencial (modelo de regresión logística univariable y multivariable) permitió investigar el origen, la respuesta y su relación en los diferentes CM. El estudio ha confirmado el alto nivel conflictivo del alumnado. También se ha observado que los CM están directamente relacionados con la familia de juegos motores en las que emergen.

PALABRAS CLAVE: conflicto, educación física, educación primaria, juegos

ABSTRACT

This study investigated the types of motor conflict arising in four kinds of games (psychomotor, cooperation, opposition and cooperation-opposition) played in the context of primary school physical education classes. This was a multi-subject, single-case study ($n = 43$ students, 21 boys and 22 girls aged between 8 and 11 years). The class teacher had a dual role as participant researcher and educator. A total of 255 games were studied, in which 747 motor conflicts arose. An inferential statistical analysis (univariate and multivariate logistic regression) was used to investigate the origin of and response to each motor conflict, as well as the relationship between these two aspects. The results revealed high levels of conflict among these students. The different types of conflict were also found to be related to the family of motor games in which they arose.

KEY WORDS: conflict, physical education, primary school, games

INTRODUCTION

Throughout our lives we are required to interact with other people in a variety of

contexts, and these interactions form part of the socialization process through we learn to respect the basic rules that govern our culture (e.g. Deutsch, Coleman & Marcus, 2006). However, conflict often arises during these social processes. Conflict, of course, is an inherent feature of human social behaviour, one that is implicit to life itself and which may involve persons of any age or stage of development. As such, it can have an important effect on the lives of individuals and on society at large (Fisas, 1998; Girard & Koch, 1996; Ortega & Del Rey, 2003).

The present study draws upon the theoretical framework of conflictology (Vinyamata, 2003), a discipline that covers a range of perspectives on the problem of conflict. Among these, a considerable amount of research has examined the problem from a social point of view (Sáez de Ocáriz, 2011). From this perspective, conflict is considered to be a social construction, the result of an interactive process comprising an action and a reaction, and as an event that must be understood in relation to the context in which it occurs (Lederach, 1995).

In schools, a basic social institution charged with fulfilling the educational responsibilities of society, the continual emergence of conflict is a cause for concern among teachers, not least as this phenomenon has ceased to be an occasional occurrence and has become part and parcel of school life (Ortega & Del Rey, 2003). In this context the European report entitled *Proposal for an Action Plan to Tackle Violence in the Schools* (Salomäki, 2001) has highlighted the need for instruments and procedures that can help to prevent conflict arising in schools. An example of such work would be the various studies carried out in Spanish schools with the aim of understanding social influence and fostering harmonious relations among children (e.g. Burguet, 1999; Cerezo, 2009; Del Rey & Ortega, 2001; Díaz-Aguado, 2006; Farré, 2004; González-Pérez & Criado, 2004; Rodríguez-Basanta & Salarich, 2009; Sastre & Moreno, 2002; Trianes & García-Correa, 2002; Viñas, 2004). Mention should also be made of the specific studies that have examined ways of preventing conflict in the context of physical education (see, for example, Gómez-Rijo, 2005; Kwon, 2007; López-Ros & Eberle, 2003; Tejero, Balsalobre & Ibáñez, 2011; Tejero, Ibáñez & Pérez-Alonso, 2008), or of using such classes to tackle conflict (Costes, 2003; Fraile, 2008; Lavega, 2001).

Conflict in the physical education class

In line with the work of Lavega (2001), one of the few authors to have examined conflict within the specific context of physical education, it is important to begin by recognizing that there are domains of motor action or families of motor games (Parlebas, 2001) that evoke different ways of relating to others. Each family of games activates different praxic processes which, in turn, activate certain kinds of motor behaviour. From this perspective, it is argued that conflicts between students in a physical education class arise when their behaviour clashes with the internal

logic or properties of the motor game.

In the context of a physical education class, motor games are like a laboratory of social relations in which the participants' experience of interaction and the emotions associated with it can often lead to tension among them. The discipline known as motor praxeology considers that all motor games have an internal logic which requires participants to relate in a certain way not only to one another but also to space, time and any material that is being used (Parlebas, 2001). This discipline also proposes a classification of motor games that is based on the types of relationships which are established between participants and with space. In terms of the kind of interaction among participants it is possible to distinguish four domains of motor action: a) psychomotor games, in which there is no motor interaction among participants; b) cooperative games, in which two or more players cooperate in order to achieve a shared goal; c) opposition games, in which participants are rivals; and d) cooperation-opposition games, in which participants cooperate with teammates and act as rivals to the opposing team.

This means that games act as a kind of society in miniature (Parlebas, 2001) and provide the skilled teacher with an ideal opportunity to intervene in a unitary way with the person as a whole; as such, students become the centre of attention and interest of the educational process. When a student takes part in a game each one of his or her motor responses not only activates certain muscle groups but also brings into play, simultaneously, all the other dimensions of his or her personhood, in other words, the biological, cognitive, affective and social dimensions. It is here that physical education acquires its meaning, since it is, above all, a pedagogy of motor behaviour (Lagardera & Lavega, 2005).

With respect to the social dimension it is possible to identify four types of motor behaviour (Lagardera & Lavega, 2005; Lavega, 2004): a) well-matched behaviours, which produce social relations that are in keeping with the internal logic of the game (e.g. passing the ball correctly to a teammate in a team game); b) mismatched behaviours, which depart from the type of relations required by the internal logic of the game (e.g. not passing the ball to a teammate as a result of being too individualistic, and therefore hampering the achievement of the team goal); c) destructive behaviours, whereby the rules are flouted (e.g. using one's feet to pass the ball when the rules make clear that only the hands can be used, or pushing an opponent in order to take the ball off him or her); and d) verbal behaviour related to the pact regarding the rules of the game (e.g. behaviour that respects the pact: reaching an agreement with teammates about a shared game strategy; behaviour that undermines the pact: arguing and avoiding agreement; destructive behaviour: breaking the pact, for example, by hitting another player).

If the aim is to resolve or avoid interpersonal conflict among students, then physical education must seek to foster harmonious relations between them. When it comes to teaching such relations it will be helpful to use a classification of motor games

that sets out the kind of motor relationships they require of participants. It will also be highly useful to consider the type of motor or verbal behaviour that students actually produce. If we start from the previously mentioned definition of conflict, that is, a process involving an action and a reaction (Lederach, 1995), then motor conflict during games played in physical education classes (Sáez de Ocáriz, 2011) will occur as a result of one of three events: *destructive motor behaviour* (e.g. hitting an opponent after being captured in a game of 'police and thieves'); *mismatched motor behaviour* (e.g. accidentally pushing another player while attempting not to be caught); or in the context of *verbal behaviour related to the pact* (e.g. not agreeing with the way in which one has been caught). If the motor behaviour is well-matched to the internal logic of the game (e.g. releasing a teammate without being captured by the opponent) then no conflict situation will arise. Each instance of conflict will also include a reaction by the student who feels him or herself to be the victim of events to the student who is seen to have provoked the situation. This reaction or response can take the form of verbal aggression, physical aggression or mixed aggression (i.e. both verbal and physical simultaneously).

Thus, a situation of motor conflict will involve both an originating behaviour or action and a response to this stimulus. Any attempt to resolve the conflict must therefore take into consideration both the origin and the response. Table 1 presents one way of categorizing different kinds of motor conflict, taking into account both their origin and the response to them.

Table 1. Classification of motor conflict according to the process involved

MOTOR CONFLICT	ORIGIN	+	RESPONSE
<i>Type I</i>	Conflict in verbal behaviour related to the pact		Verbal aggression
<i>Type II</i>	Conflict in verbal behaviour related to the pact		Physical aggression
<i>Type III</i>	Conflict in verbal behaviour related to the pact		Mixed aggression
<i>Type IV</i>	Conflict over mismatched motor behaviour		Verbal aggression
<i>Type V</i>	Conflict over mismatched motor behaviour		Physical aggression
<i>Type VI</i>	Conflict over mismatched motor behaviour		Mixed aggression
<i>Type VII</i>	Conflict over destructive motor behaviour		Verbal aggression
<i>Type VIII</i>	Conflict over destructive motor behaviour		Physical aggression
<i>Type IX</i>	Conflict over destructive motor behaviour		Mixed aggression

The purpose of the present study was to examine the different kinds of motor conflict arising in physical education classes, specifically in the primary school

context. In line with the report by Salomäki (2001) the aim was to offer teachers a set of pedagogical resources that could help them to improve the teaching-learning process with their students.

The specific objectives were as follows:

- 1) To identify the different kinds of motor conflict arising during the games used in a physical education project that was implemented in a primary school in the city of Lleida (Catalonia, Spain).
- 2) To study the characteristics of the different kinds of motor conflict occurring in each family of motor games used in this physical education project.
- 3) To test the utility of the abovementioned classification of motor conflict as a resource that might help primary school physical education teachers to improve their work with students.

MATERIAL AND METHOD

Participants

Participants were 43 students (21 boys and 22 girls; $M = 21.5$, $SD = 0.5$) aged between 8 and 11 years ($M = 9.35$, $SD = 1.07$) and attending a primary school in the city of Lleida (Catalonia, Spain). Twenty-three of them (11 boys and 12 girls) were in the middle period of their primary education, while the remaining 20 (10 boys and 10 girls) were in the final period.

At all points during the study, steps were taken 1) to abide by the principle of beneficence (the participants were not harmed, there was no interference among objectives and the results were shared), 2) to respect human dignity (personal dignity and privacy) and 3) to ensure fairness (equal treatment, confidentiality and anonymity) (Howe & Moses, 1999; Mesía, 2007).

The Study Context

The study population comprised children with a very low socio-economic and cultural status (most of them were of Gypsy origin or were immigrants from Eastern Europe or North Africa). Indeed, many of them came from dysfunctional families characterized by problems such as imprisonment, alcoholism, drug abuse, unemployment, a lack of social resources and illiteracy.

The school in question had been granted autonomy by the educational authorities to look at ways of reducing violence and absenteeism among its students. It was in this context that they invited the researchers to develop a programme that could address these issues from the perspective of physical education. This programme

was based on the use of traditional games. Given that the pedagogical purpose of this programme was to improve interpersonal relationships among students, the different sessions were planned around the introduction of games pertaining to different motor action domains (see Table 2).

Table 2. Intervention programme based on traditional games

Academic Term	NO. OF GAMES	SOCIO-MOTOR GAMES			
		PSYCHOMOTOR	Cooperation	Opposition	Cooperation-Opposition
1	83	12 (14.5%)	18 (21.7%)	18 (21.7%)	35 (42.1%)
2	124	7 (5.6%)	69 (55.7%)	12 (9.7%)	36 (29.0%)
3	48	4 (8.3%)	30 (62.5%)	2 (4.2%)	12 (25.0%)

Overall, the programme included a total of 255 motor games distributed across 42 physical education classes lasting one hour each and offered twice weekly during the academic year. Twenty-three (9%) of these games were psychomotor in nature (i.e. no form of motor interaction was involved), while the remaining 232 (91%) were socio-motor games, that is, they required students to interact with one another. The socio-motor games were distributed across three categories, as follows: 117 (45.8%) cooperation games, 32 (12.6%) opposition games and 83 (32.6%) cooperation-opposition games. The decision to use mostly socio-motor games was a natural consequence of the study objectives, since the internal logic of these games means that participants are put to the test by being asked to perform different kinds of motor action in each of the three motor action domains.

Procedure

As Stenhouse (1987) argues, any piece of educational research whose aim is to improve the teaching-learning process must be implemented by teachers themselves. In accordance with this principle the physical education teacher in this study assumed the dual role of participant researcher and educator: as an educator he chose and taught the motor games that formed part of the programme, whereas his role as participant researcher meant that after each class he described in a rigorous and detailed way each of the games used and the processes of motor conflict that had arisen. The procedure chosen to observe and describe the events occurring in each physical education class was participant observation, since the fundamental aim was to capture the reality of the social group in question and, subsequently, to reconstruct the phenomenon of interest (Aguirre, 1995; García-Ferrando, Ibáñez & Alvira, 1992; Goetz & LeCompte, 1988; Quivy & Campenhoudt, 2000; Ruiz-Olabuenaga, 1999).

The use of audio-visual resources was ruled out as a result of the study context, the characteristics of the population and the school, and because the study was concerned with the recording and analysis of relatively large units of information, the only essential requirement being the ability to gather good quality data about

the type of motor activity performed and the kinds of motor conflict that emerged among students.

Instruments

Observation involves more than just the passive perception of events, and it is necessary to record all available information so that it can be subsequently organized (Del Rincón, Arnal, Latorre & Sans, 1995). In line with the procedure chosen for this study we therefore opted to use a narrative system in the form of field notes. By providing a specific and broad description of the observed phenomenon, field notes can be used to explain the processes that have taken place and to identify patterns of observed behaviour. In the present study the field notes were written immediately after each observed session so as to avoid the typical problems associated with the observation of social phenomena (Del Rincón et al., 1995). In order to facilitate a detailed description of the observed processes the notes were recorded on an observation sheet that was categorized according to the study variables referring to the games and the types of conflict.

Data Analysis

Two kinds of statistical analysis were applied to the data. First, a descriptive analysis was conducted in relation to three variables: the type of game (i.e. the corresponding motor action domain), the origin of the conflict and the response to it. Second, an inferential analysis was carried out by means of univariate and multivariate logistic regression, the aim being to study the relationship between the origin of the conflict and the response to it. All the statistical analyses were performed using SPSS v15.0 for Windows.

RESULTS

In line with the theoretical framework of this study each family of motor games led the students to experience a series of motor relations, processes and problems of a similar social nature. It was also expected that the internal logic of each family of games (i.e. the different kinds of motor experience they imply) would produce different types of motor conflict among students. Consequently, the data are presented below in terms of the type of motor behaviour that originated a given motor conflict, the kind of response that was then observed, and the relationship between these two aspects. As was made clear when setting out the theoretical framework, a motor conflict has two components: origin and response.

Among the 255 games that were played as part of the intervention programme, some kind of motor conflict was observed in 158 of them (62%). In total, there were 747 conflict events. In terms of the origin of these conflicts, 87 (11.65%) were linked to verbal behaviour related to the pact, 310 (41.50%) concerned

mismatched motor behaviour and 350 (46.85%) were the result of destructive motor behaviour. As regards the response to the event that originated the conflict, 302 (40.43%) led to verbal aggression, 215 (28.78%) were responded to with physical aggression and 230 (30.79%) saw a response based on mixed aggression.

In terms of the frequency of the nine types of conflict that were defined in Table 1 (according to their origin and the response they produced), the 747 conflict events were distributed as follows: Type I: 66 (8.84%); Type II: 10 (1.34%); Type III: 11 (1.47%); Type IV: 107 (14.32%); Type V: 122 (16.33%); Type VI: 81 (10.85%); Type VII: 129 (17.27%); Type VIII: 83 (11.11%); and Type IX: 138 (18.47%).

Table 1. Distribution of motor conflicts according to the family of games in which they appeared

	PSYCHOMOTOR GAMES	SOCIO-MOTOR GAMES		
		COOPERATION	OPPOSITION	COOPERATION- OPPOSITION
Total Games (n = 255)	23	117	32	83
Games with Conflict (n = 158)	12	64	19	63
Total Conflicts (n = 747)	38	319	77	313
Frequency of Conflicts (in each family of games)	52.2%	54.7%	59.4%	75.9%

In psychomotor games 15.8% (6) of the observed conflicts were the result of mismatched motor behaviour, while the remaining 84.2% (32) had their origin in destructive motor behaviour ($M = 1.84$; $SD = 0.370$). The responses to these original behaviours were distributed as follows: 15.8% (6) verbal aggression, 15.8% (6) physical aggression and 68.4% (26) mixed aggression ($M = 2.00$; $SD = 0.569$).

The relationship between the origin of conflict and the subsequent response to this original behaviour was then studied by means of logistic regression. This analysis revealed that in psychomotor games, destructive motor behaviours were significantly more likely to be responded to with mixed aggression than were mismatched motor behaviours ($p < .05$; $Ch^2 = 4.060$) (see Table 4).

Table 2. Contingency table for the variables Origin and Response in relation to psychomotor games

ORIGIN		RESPONSE		
		Physical	Mixed	Verbal
Mismatched motor behaviour	Count	2	2	2
	Corrected residuals	1.3	-2.0	1.3
Destructive motor behaviour	Count	4	24	4
	Corrected residuals	-1.3	2.0	-1.3

Note: grey shading indicates a significant relationship.

In cooperation games 16.6% (53) of conflicts were triggered by verbal behaviour related to the pact, 33.3% (106) were the result of mismatched motor behaviours and 50.1% (160) originated in destructive motor behaviours ($M = 2.17$; $SD = 0.903$). The responses to these original behaviours were distributed as follows: 53.3% (170) verbal aggression, 16% (51) physical aggression and 30.7% (98) mixed aggression ($M = 2.37$; $SD = 0.745$).

Application of logistic regression to the results for cooperation games revealed two significant relationships between the origin of conflict and the subsequent response to this original behaviour ($p < .05$; $Ch^2 = 25.911$): a) mismatched motor behaviours and verbal behaviours related to the pact were both more likely to trigger verbal aggression than mixed aggression; and b) destructive motor behaviours were more likely to be responded to with mixed aggression than with verbal aggression alone (see Table 5).

Table 3. Contingency table for the variables Origin and Response in relation to cooperation games

ORIGIN		RESPONSE		
		Physical	Mixed	Verbal
Mismatched motor behaviour	Count	18	23	66
	Corrected residuals	.3	-2.5	2.1
Destructive motor behaviour	Count	29	67	66
	Corrected residuals	.9	4.2	-4.6
Verbal behaviour related to the pact	Count	4	8	38
	Corrected residuals	-1.7	-2.5	3.5

Note: grey shading indicates a significant relationship.

In opposition games 49.4% (38) of conflicts originated in mismatched motor behaviours, while the remaining 50.6% (39) were triggered by destructive motor behaviours ($M = 1.51$; $SD = 0.503$). The responses to these original behaviours were distributed as follows: 32.5% (25) verbal aggression, 37.7% (29) physical aggression and 29.9% (23) mixed aggression ($M = 1.95$; $SD = 0.841$).

Application of logistic regression to the results for opposition games revealed two significant relationships between the origin of conflict and the subsequent response to this original behaviour ($p < .05$; $Ch^2 = 12.869$): a) mismatched motor behaviours were 20 times more likely to trigger physical as opposed to verbal aggression ($OR = 20.32$; 95% $CI [3.46 - 119.25]$); and b) destructive motor behaviours were more likely to be responded to with verbal rather than physical aggression (see Table 6).

Table 4. Contingency table for the variables Origin and Response in relation to opposition games

ORIGIN		RESPONSE		
		Physical	Mixed	Verbal
Mismatched motor behaviour	Count	19	14	5
	Corrected residuals	2.2	1.3	-3.6
Destructive motor behaviour	Count	10	9	20
	Corrected residuals	-2.2	-1.3	3.6

Note: grey shading indicates a significant relationship.

Finally, in cooperation-opposition games 11.8% (37) of conflicts were triggered by verbal behaviour related to the pact, 50.8% (159) were the result of mismatched motor behaviours and 37.4% (117) originated in destructive motor behaviours ($M = 1.87$; $SD = 0.931$). The responses to these original behaviours were distributed as follows: 32.3% (101) verbal aggression, 41.2% (129) physical aggression and 26.5% (159) mixed aggression ($M = 1.91$; $SD = 0.854$).

Application of logistic regression to the results for cooperation games revealed three significant relationships between the origin of conflict and the subsequent response to this original behaviour ($p < .05$; $Ch^2 = 45.450$): a) mismatched motor behaviours were more likely to be responded to with physical rather than verbal aggression; b) destructive motor behaviours generated fewer instances of physical aggression than did mismatched motor behaviours; and c) verbal behaviour related to the pact was three times more likely to trigger verbal as opposed to physical aggression ($OR = 0.304$; 95% $CI = [0.101 - 0.917]$) and seven times more likely to trigger verbal as opposed to mixed aggression ($OR = 0.136$; 95% $CI = [0.032 - 0.580]$) (see Table 7).

Table 5. Contingency table for the variables Origin and Response in relation to cooperation-opposition games

ORIGIN		RESPONSE		
		Physical	Mixed	Verbal
Mismatched motor behaviour	Count	83	42	34
	Corrected residuals	4.0	.0	-4.2
Destructive motor behaviour	Count	40	38	39
	Corrected residuals	-2.0	1.8	.3
Verbal behaviour related to the pact	Count	6	3	28
	Corrected residuals	-3.3	-2.7	6.0

Note: grey shading indicates a significant relationship.

DISCUSSION

The aim of this study was to examine the different types of motor conflict arising in the four families of motor games that were included in a physical education programme implemented in a primary school in Lleida (Catalonia, Spain). The classification of traditional games according to these four families was found to be a useful strategy in terms of studying motor conflict. This is in line with previous

research that found the classification to be useful when studying the transfer of learning (Parlebas, 2001) or the experience of different kinds of emotions (Lavega, March & Filella, 2013). A key finding of the present study is that each family of games had characteristic features in terms of the origin of the conflicts that arose and the way in which this original behaviour was responded to.

In all the motor action domains (with the exception of cooperation-opposition games) the majority of conflicts were originated by destructive motor behaviours. These are behaviours that imply an infringement of the rules of the game, in other words, the initial agreement over how participants will relate to one another is not respected (Lavega, 2004). This finding highlights the extent to which conflict is a defining feature of this population of students.

In terms of how the behaviour which originated the conflict was responded to, some form of physical contact (physical or mixed aggression) was the most common response in all kinds of games except for those based on cooperation, in which the response was more likely to be verbal aggression, of less intensity. A possible explanation for this finding is that the games most commonly played by these children do not often involve cooperative relations, and therefore the challenges presented by the cooperative scenario do not affect them to the same extent as occurs in the other families of games (Sáez de Ocáriz, 2011).

Opposition games place participants in the role of adversaries, and the goal is to defeat one's opponent (Lagardera & Lavega, 2005; Parlebas, 2001). Consequently, these kinds of games may generate negative emotions (Lavega et al., 2013) that, in turn, trigger conflict. The results show that the conflict arising in opposition games triggered all three kinds of possible response (physical, verbal and mixed aggression). Furthermore, when the games required participants to interact with their opponent (i.e. the domains of opposition and cooperation-opposition) the person who initiated the conflict was responded to with some kind of physical aggression (e.g. pushing, hitting or kicking). One interpretation of these findings would be that these kinds of social challenges are highly present in the games played by the students studied, among whom interaction with others is usually accompanied by hostile relations (Molina, 2005; Sáez de Ocáriz, 2011).

In psychomotor games most conflict arose as a result of destructive motor behaviours. By definition, the internal logic of these games means that there is no interaction between participants, since they perform the task either in separate areas or through turn-taking (Parlebas, 2001). However, a negative interaction may occur if one or more of the participants fails to respect the distance between playing areas, impedes the movement of another player or tries to jump their turn. Conflicts of these kinds by and large triggered a response involving mixed aggression (i.e. physical and verbal simultaneously). The presence of motor conflict in these kinds of games is testimony to the limited social skills of this group

of students (Sáez de Ocáriz, 2011).

Overall, the fact that motor conflict was observed in more than half the games observed illustrates that this student population is characterized by high levels of conflict. Moreover, the largest proportion of conflict events corresponded to Type IX, namely destructive motor behaviour that was responded to with mixed aggression. This finding supports the school's decision to implement a pedagogical intervention aimed at addressing these motor conflicts and improving the teaching-learning process in this group of students (Burguet, 1999; Costes, 2003; Díaz-Aguado, 2006; Fraile, 2008; González-Pérez & Criado, 2004; Sáez de Ocáriz, 2011; Stenhouse, 1987).

Although the classification of motor games that was used here is still in the process of being developed and tested, the results suggest that it could be a useful resource for physical education teachers who wish to tackle the issue of motor conflict among their students (Lagardera & Lavega, 2005). In this regard it responds to one of the objectives set out in the report by Salomäki (2001), namely to provide instruments and procedures that can help to prevent conflict arising in schools by fostering harmonious relations.

CONCLUSIONS

Games are like a laboratory of interpersonal relations. By being introduced to different domains of motor action, participants can be exposed to a wide repertory of motor experiences. As each family of games involves a distinct social and motor experience, the kinds of conflict that arise in a given family of games may also have their characteristic point of origin and response. In this regard, motor praxeology is a scientific discipline of considerable interest and utility for physical education teachers.

Physical education can be thought of as a pedagogy of motor behaviour, or in the context of the present study, as a pedagogy of interpersonal motor behaviour. Motor conflict is a process that comprises both an initial behaviour and the response to it, and it needs to be studied both as a whole and in terms of its constituent elements. Specifically, any analysis of motor conflict must consider the kind of behaviour that triggers the conflict (verbal behaviour related to the pact, mismatched motor behaviour or destructive motor behaviour) and the kind of response that this behaviour is met with (verbal aggression, physical aggression or mixed aggression). In this regard, the classification of different types of motor conflict could be a useful resource for primary school physical education teachers who wish to tackle the problem of conflict among their students. Having identified the different types of conflict that are present it would then be possible to design a specific physical education programme to address and, ideally, prevent their occurrence in the future.

One of the main limitations of the present research is that it involves a single-case study with a group of primary school students from a disadvantaged socio-cultural background. Our aim in the future, therefore, is to replicate the study with different student populations. It could also be useful in future research to complement the classification of motor conflicts used here with some measure of the intensity of both the original behaviour and the response to it.

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