

EXPRESSION OF EMOTIONS IN GAMES BELONGING TO THE PSYCHOMOTOR DOMAIN: PERSPECTIVES ON GENDER

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Abstract

This essay is part of an international research project entitled “Games and Emotions”, which was created by Lavega et al. (2008) at the Centre for Investigation of Praxiological Studies of the University of Lérida. The main purpose of this study is to provide a deeper analysis of the relation between games or motor-skill practices and emotions considering the bases of Motor Praxeology. The study samples included 98 first-year undergraduate students of both genders from the Faculty of Sport Sciences and Physical Education of the University of Coimbra during the 2008–2009 academic term. The quasi-experimental methodology was used along with the hypothetical-deductive method, and the data collection instruments – a questionnaire on sports background and a recording sheet containing the emotions displayed during real game situations – were taken from the main project after being translated from Catalan. The emotions were divided into three categories: positive (joy, good humour, love, well being), negative (anger, fear, anxiety, sadness, shame, disgust), and ambiguous (hope, surprise, compassion), and they were valued according to a scale of 0 to 10. The data analysis was carried out through the Statistical Package for Social Sciences (SPSS), version 15.0, as that software fits the nature of the study. The results showed that females had more homogeneous emotions and a more stable behaviour in psychomotor-skill games, with very low levels of negative emotions.

Key words: *traditional games, sporting games, emotions, motor praxeology.*

Introduction

This work, along with four others of the same nature, was carried out at the FCDEF, University of Coimbra, as part of the Games and Emotions International Project¹. Based upon criteria established by Motor Praxeology, it aimed to identify, describe and interpret the emotional expressions shown by individuals who participated in different types of motor-skill games.

Since there are few approaches on emotional expressions within the context of physical education classes, for the most part this study was dedicated to contribute to clarifying which emotional expressions come out in situations provided by psychomotor-skill games – in which a player’s action does not depend upon the behaviour of others – and how those expressions are related to gender and sporting experiences.

Based upon this focus, we sought to study the relationship between different sorts of emotions and the several games belonging to the psychomotor domain, taking into account that emotions, in addition to giving rise to feelings, thoughts and actions, are influenced by factors such as reference culture, education, experiences, and behavioural reactions caused by one’s personality. Furthermore,

¹ This international project includes the universities of Coimbra (Portugal), Barcelona, Girona, Lleida, Málaga, Murcia, San Sebastián, Vitoria, Zaragoza, Huesca (Spain), Locarno (Switzerland) and Rio Grande do Sul (Brazil).

we tried to outline the potential benefits of non-sports games to the emotional education of individuals in general.

In order to realise this approach, it was important to consider specific characteristics of each game (Lagardera & Lavega, 2003; Parlebas, 2001). As a rule, motor-skill games consist of highly active processes in which players can decide whether they want to participate or not; once they decide to take part in the action, they will need to adapt to the processes and relationships established by the internal logic of the game, which means they will necessarily undergo its effects (either motor, affective, emotional, cognitive or social ones). In that regard, Parlebas (2001) was taken as a reference because his work is quite specific, as it provides a classification of motor-skill games according to aspects that are strictly motor, but without establishing a hierarchy for the games, which means it doesn't regard them as better or worse, primary or secondary, of first or second category; instead, it considers that different games have different processes and, as a result, rather different effects.

Based upon references on the expression of emotions in educational environments and upon the particular features of non-sports games (Bar-On, 1997; Bar-on & Parker, 2000; Bisquerra, 2000; Bisquerra 2003; Chóliz & Gómez, 2002; Darder & Bisquerra, 2001; Fernández Abascal, Palmero & Breva, 2002), we can suggest plans for physical or sports exercises programs that make the participants feel the pleasure for performing such activities so that they can progressively include them in their daily life habits. It is also possible that participants who undergo recreational experiences show emotions that are expected by the responsible for the activity. Such experiences can be considered emotional education sessions and can play a role in the development of emotional intelligence, which is an essential aspect of one's relationships within and with society (Gardner, 1995; Goleman, 1995; Hirama, 2002; Palmero & Fernández-Abascal, 2002; Prodocimo, Caetano, Santos & Siqueira, 2007).

We believe that the results of the studies on emotions in educational environments will allow us to determine to what extent emotional tendencies come from cognitive reactions, life experiences and education. Those emotions are aroused by stimuli and the game practice itself, as well as by specific resulting behaviours that Parlebas (2001) defines as internal logic of the game. Some researches related to the school environment (During, 1981; Parlebas, 1998; Ribas, 2001).

Justification and aim

According to works by specialists in motor behaviour, motor education acts more upon all sorts of procedural learning than upon declarative learning. Interaction provided by duel situations, especially within the sport context, is not the only possibility for socialisation experiences; in fact, it is equally important to promote values associated to the pleasure of sharing and playing together without having to label ourselves as good or bad, successful or unsuccessful, winners or losers. Therefore, we have another reason for planning a plural intervention in physical education that favours particular practices according to the emotions that we want to call forth, considering the pedagogical aims established. The lack of studies on the expression of emotions in non-sport motor-skill games and in different domains of Physical Education is another reason for carrying out this study.

Accordingly, the main aim of this study was to identify the tendencies in the expression of emotions by a group of undergraduate students of both genders that took part in sessions of psychomotor-skill games.

Methodology

This study is based upon the hypothetical-deductive method and a quasi-experimental methodology, namely the *ex-post facto* methodology, and its essential question is to find out gender related differences in emotions provoked by situations of psychomotor-skill games.

Variables of the study

The dimensions considered in the development of the “Games and Emotions” project are the ones related to the internal and external logics of the games that were played. In the particular case of this work, the sex of the participants was taken as an **independent variable**, whereas the set of emotions referred by Bisquerra (2000) – **positive** – joy, good humour, love, well-being; **negative** – anger, fear, anxiety, sadness, shame, disgust; **ambiguous** – surprise, hope, compassion – were chosen as **dependent variables**.

Individuals/sample

The sample consisted of all first-year undergraduate students of the Sport Sciences Course (Teaching Licence) of the Faculty of Sports Sciences and Physical Education of the University of Coimbra, within the 2008–2009 academic term. The sample selection took into account the directions given in the project, which require all the participants of the dynamic activities to be volunteers. Describing the sample in numbers, there were $N = 98$ individuals of both sexes ($M = 72$, $F = 26$) with ages varying from 17 to 44 years, 18 years being the most frequent age and 20 years being the average age.

Instruments

The instruments used for the data collection included: a) a questionnaire on the sports background of the participants; and b) and a recording sheet containing the emotions displayed during real game situations.

The recording sheet consisted of a set of emotions as classified by Bisquerra (2000), which include four positive, six negative, and three ambiguous emotions. The emotions displayed by the participants received scores from 0 to 10, 0 meaning absence of emotion and 10, the maximum level of emotion. Three specific situations were also considered during the activities: a) elimination (E), b) defeat (P) and c) win (V).

The GES (Game and Sports Scale) was developed after an intense collaboration between international researchers from the Grup de Recerca Emergent Interuniversitàri en Jocs Esportius (Interuniversity Research Group in Sports Games, GREJE) and a pedagogical research group specialised in teaching emotional skills (GROP).

Procedures

Both the questionnaire and the recording sheet were filled in in two occasions, and in the case of the former all the necessary instructions were previously given to the students. All three games were performed with a tennis ball on account of the following aims: a) to try to control one of the variables of the internal logic – the relationship with the material – and b) to notice the relationship between the material and the acquisition/development of both general and specific abilities.

Results

Statistical analysis

The general linear model with 4 subject factors (situation, domain, competition, type of emotion) has been used to deal with the data (sex, course, sports level and sports domain). To analyse the variables of more than 2 factors simple contrasts have been used. The statistical programme used was the Statistical Package for Social Sciences (SPSS), version 15.0.

Analysis and discussion of results

Regarding the emotions displayed by the students during the game sessions, the games of **Abdómen**, and **Atira, Contacta e Ganha** had the highest averages, the former for positive and ambiguous emotions and the latter for negative emotions, as shown in TABLE 1, 2 and 3. Considering all the three games and all sorts of emotions, only the game of **Atira, Contacta e Ganha** presented the highest values of variation, and standard deviations equally high.

Table 1. Expression of positive emotions – psychomotor-skill games

| Games | N. | Min. | Max. | Average | SD |
|------------------------|----|------|-------|---------|------|
| Shoot, Contact and Win | 72 | .00 | 10.00 | 3.73 | 2.23 |
| Game of the Abdomen | 86 | .00 | 10.00 | 4.22 | 2.23 |
| Caring for Life | 74 | .00 | 10.00 | 3.33 | 2.45 |

Table 2. Expression of negative emotions – psychomotor-skill games

| Games | N. | Min. | Max. | Average | SD |
|------------------------|----|------|-------|---------|------|
| Shoot, Contact and Win | 72 | .00 | 10.00 | .72 | 1.39 |
| Game of the Abdomen | 86 | .00 | 2.67 | .25 | .52 |
| Caring for Life | 75 | .00 | 5.00 | .64 | 1.13 |

Table 3. Expression of ambiguous emotions – psychomotor-skill games

| Games | N. | Min. | Max. | Average | SD |
|------------------------|----|------|-------|---------|------|
| Shoot, Contact and Win | 72 | .00 | 10.00 | 1.48 | 2.05 |
| Game of the Abdomen | 85 | .00 | 9.67 | 2.22 | 2.24 |
| Caring for Life | 73 | .00 | 10.00 | 1.47 | 2.35 |

TABLE 4 presents all the set of emotions displayed during the game sessions. It is worth mentioning that all positive and ambiguous emotions reached the maximum value in the scale (10.0), and that the positive emotions had the highest average values, whereas the negative ones showed the lowest average values (all of them below 1.0). Fear was the emotion with the lowest average value overall, and sadness, interestingly enough, was the only negative emotion that reached the maximum value in the scale.

Considering such results, we conclude that the participants undergo a variety of emotions by taking part in those games. According to Ribeiro (1996), the participants interact and cooperate with and face each other in order to solve the problems that emerge along the way.

Royo (Lagardera & Lavega, 2003; Lagardera & Lavega, 2008) reinforces the importance of emotions in human development by stating that every learning related to emotional experiences will be stronger and more durable. Therefore, games play a major role in knowledge transmission, emotional experiences and the allocation of emotional management competencies.

Table 4. Expression of emotions – psychomotor-skill games

| Emotion | N. | Min. | Max. | Average | SD |
|--------------------|----|------|-------|---------|------|
| <i>Joy</i> | 97 | .00 | 10.00 | 3.92 | 2.37 |
| <i>Good humour</i> | 97 | .00 | 10.00 | 3.38 | 2.48 |
| <i>Love</i> | 97 | .00 | 10.00 | 2.73 | 2.81 |
| <i>Well-being</i> | 96 | .00 | 10.00 | 5.74 | 2.23 |
| <i>Anger</i> | 97 | .00 | 7.33 | .50 | 1.17 |
| <i>Fear</i> | 97 | .00 | 5.00 | .20 | .74 |
| <i>Anxiety</i> | 97 | .00 | 6.67 | .77 | 1.49 |
| <i>Sadness</i> | 97 | .00 | 10.00 | .86 | 1.72 |
| <i>Shame</i> | 96 | .00 | 5.00 | .44 | 1.01 |
| <i>Disgust</i> | 96 | .00 | 3.33 | .33 | .90 |
| <i>Hope</i> | 96 | .00 | 10.00 | 1.61 | 2.38 |
| <i>Surprise</i> | 96 | .00 | 10.00 | 2.75 | 2.72 |
| <i>Compassion</i> | 96 | .00 | 10.00 | 1.44 | 2.43 |

The voluntary participation of all students in the games leaves no doubt their expressions of satisfaction and enjoyment were genuine, and the higher maximum and average values for *joy* and *well being* in comparison with the other emotions confirm the conclusions presented in a study by Hiramama (2002) in which he points out that displays of *joy* are often associated with participation in physical activities. This fact proves that movement is a source of pleasure, and indeed in the present study the high values registered for positive emotions were linked to the sensations of comfort and tranquility caused by specific motor actions.

Hiramama (2002) also concludes that achieving success in a given task leads to high levels of joy, which also goes along with the results of this study, because the students displayed positive emotions after being successful in the tasks required by the games.

Based upon conceptual considerations by Bisquerra (2000), Fernández-Abascal (2002), Lagardera and Lavega (2008) and Lazarus (1991), we understand that the equal maximum values and close average values for the three ambiguous emotions investigated in this study result from the fact that such emotions are likely to change amongst themselves due to the changing circumstances inherent in the games. In particular, the presence of the emotion *surprise* with higher average values in all three games shows that the practice of psychomotor-skill games provides people with a great variety of experiences, which is rather positive for their emotional development.

Still regarding the ambiguous emotions, we can notice that the average value for the emotion compassion is much lower in the game of **Atira, contacta e ganha** than in the other two, and the reason is that it is the only game in which there must be a winner, which strengthens the competition feeling and annihilates fellowship. Another reason could be the fact that all participants are freshmen, since the study conducted by Hiramama (2002) showed low levels of fellowship amongst first-year undergraduates.

In what refers to the results of the expression of negative emotions, *fear* should be pointed out as the emotion with the lowest values. This result is in accordance with conclusions provided by Hiramama (2002) and Maia and Marques (2007) that during non-competitive games positive emotions are more frequent.

By analysing the expression of negative emotions per game, we conclude that the most noticeable values are the ones above 1.0, i.e., the values of *shame* in the game of **Cuidar da Vida** and *anxiety* and *sadness* in the game of **Atira, contacta e ganha**, which can be justified by the nature of these games. It is worth noting that these results are in accordance with other studies.

Considering the gender of the participants, we can observe that the average values of the emotions displayed by males were superior to those showed by females for all sets of emotions. Both genders had significantly higher values for the *positive* emotions and considerably lower values for the *negative* ones, the main variation between them being represented by the *ambiguous* emotions.

Table 5. Average values of the expression of emotions according to gender

| Type of Emotion | Female | Male | Total |
|-----------------|--------|------|-------|
| Positive | 3.85 | 3.98 | 3.95 |
| Negative | .21 | .63 | .52 |
| Ambiguous | 1.41 | 2.13 | 1.93 |

Examining each emotion according to gender, we note that males still present higher values, except for *well being* (positive), for which females have a superior mark, and *surprise* (ambiguous), whose values for both genders are equal.

Table 6. Average values of the expression of each emotion according to gender

| Emotion | Female | Male | Total |
|--------------------|--------|------|-------|
| <i>Joy</i> | 3.84 | 3.96 | 3.92 |
| <i>Good humour</i> | 3.19 | 3.45 | 3.38 |
| <i>Love</i> | 2.31 | 2.89 | 2.73 |
| <i>Well-being</i> | 6.05 | 5.62 | 5.74 |
| <i>Anger</i> | .21 | .60 | .50 |
| <i>Fear</i> | .07 | .25 | .20 |
| <i>Anxiety</i> | .27 | .95 | .77 |
| <i>Sadness</i> | .31 | 1.06 | .86 |
| <i>Shame</i> | .08 | .58 | .44 |
| <i>Disgust</i> | .32 | .34 | .33 |
| <i>Hope</i> | .81 | 1.91 | 1.61 |
| <i>Surprise</i> | 2.75 | 2.75 | 2.75 |
| <i>Compassion</i> | .67 | 1.73 | 1.44 |

Conclusion

The results indicate that the characteristics of the games can influence the expression of emotions in both genders. Particularly, higher values of negative emotions were noted for the male gender in games with competitive features, whereas higher values of positive and ambiguous emotions were observed for the female gender in introspective and expression games.

This observation finds resonance in the conclusions of Maia R., Maia J. and Marques (2007), who mention the fact that negative emotions are stronger in competitive games – because there is always the fear of taking risks and failing – and are more frequently observed in the male gender. Dias (2005), for his part, points out that negative emotions are more common in individual games and sports, because when playing on their own players have higher levels of anxiety and danger perception than when playing with a team.

By carrying out this study on the emotions displayed by young men and women during sessions of psychomotor-skill games, we state that the female gender has a more constant emotional attitude, a more stable, balanced behaviour, without reaching extreme levels for any emotion. Particularly, in such situations women tend to display *negative* emotions in a rather mild way.

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