

## Subjective well-being in competitive psychomotor games: A qualitative approach

Rekabetçi psikomotor oyunlarında öznel iyi oluş: Nitel bir yaklaşım

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### Abstract

Fostering subjective well-being (SWB) in participants in games is an interesting resource for physical education teachers. This study examines the structural traits (internal logic) of games and the subjective traits (external logic, individual and group) of players, oriented towards the task or the ego, that provoke states of SWB (related to affiliation, autonomy, mastery and meaning) in participants in individual competitive psychomotor games. Two hundred and eighteen first-year undergraduates pursuing a physical education and sports science degree took part in the study. The students received two sessions consisting of five individual games each per session. The participants completed questionnaires after each game, giving accounts of their emotional experiences. The content analysis performed by six experts related SWB to the structural aspects of each game: a fun game, a pleasant or unpleasant competition, and the way victory was achieved (score - close/crushing; frequency - first time/repeated; unexpected; making a comeback). SWB also referred to three subjective aspects related to oneself (strategy and effort), to the rival (skills and characteristics) and to the group (climate).

**Keywords:** Satisfaction, individual game, competitive selection, content analysis, emotional experience.

### Özet

Oyunlardaki katılımcılarda öznel iyi oluşu (ÖİÖ) geliştirmek, beden eğitim öğretmenleri için ilginç bir kaynak teşkil etmektedir. Bu çalışma görev veya egoya yönelik, bireysel rekabetçi psikomotor oyunlarında katılımcılarda (yakın ilişki, otonomi, uzmanlık ve anlamla ilgili olarak) ÖİÖ durumlarına yol açan oyunların yapısal özelliklerini (iç mantık) ve oyuncuların öznel özelliklerini incelemektir. Çalışmaya beden eğitimi ve spor bilimleri bölümünde okuyan 218 birinci sınıf üniversite öğrencisi katılmıştır. Seans başına beş bireysel oyun olmak üzere, öğrenciler iki seans almıştır. Katılımcılar her bir oyundan sonra ölçekleri cevaplandırarak duygusal deneyimlerinden bahsetmiştir. Altı uzman tarafından gerçekleştirilen içerik analizi, ÖİÖ'yu her bir oyunun yapısal yönleriyle ilişkilendirmiştir: Eğlenceli bir oyun, hoş veya nahoş bir yarışma ve zaferin kazanılma biçimi (sayı- yakın/ezici; frekans- ilk kez/tekrarlanan; beklenmedik; geri dönüş yapma). ÖİÖ ayrıca kişiyle (strateji ve çaba), rakiple (beceriler ve özellikler) ve grupla (ortam) ilgili üç öznel boyuta atfedilmiştir.

**Anahtar kelimeler:** Doyum, bireysel oyun, rekabetçi seçim, içerik analizi, duygusal deneyim

### Introduction

Within the recreational context, games are the most representative activities of leisure and are therefore a very valuable resource for physical education teachers that want to foster subjective well-being (SWB) in players. Indeed, many studies have shown that SWB is positively correlated

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with different leisure activities, especially playing games and doing sport (e.g., Yarnal, Chick, & Kerstetter, 2008).

Diener (1984) conceptualises SWB on the basis of a model consisting of three components: high levels of satisfaction with life, high levels of positive feelings and low levels of negative feelings. When a person gains a positive experience from a game, it can easily be related to an improvement in SWB (Lavega, Filella, Agulló, Soldevila, & March, 2011). Newman, Tay, and Diener (2014) assert that “although there are different ways of configuring these components in relation to SWB, it is clear that each component is necessary for describing the domain space of SWB” (p. 558).

This study comes in the wake of the one by Newman et al. (2014) examining the SWB that motor games activate. These authors consider that leisure is a multidimensional construct that should be addressed from two perspectives: structural and subjective. The structural perspective refers to the specific characteristics of the activity (game), that is to say, “the specific state of affairs” of a given game (Suits 1978) or internal logic (Parlebas, 1981). The subjective perspective corresponds to the perception that people (individual or group) have their involvement in the activity itself, including their individual attributes such as gender, sporting experience or cultural background (Thoman, Sansone, & Pasupathi 2007; Collard, Oboeuf, & Ahmaidi, 2007; Goffman, 1967).

Newman et al. (2014) reviewed the theories underpinning 363 studies on leisure, recreation, well-being, satisfaction with life, quality of life, emotion and happiness. The examination of these theories (e.g., Hierarchy of Needs by Maslow, 1954; Activity Theory by Havighurst, 1961; Disengagement Theory by Cumming & Henry, 1961; Flow by Csikszentmihalyi, 1990; Serious Leisure by Stebbins, 1992; and Self-determination Theory by Ryan & Deci, 2000; cited by Newman et al., 2014) identified four main psychological mechanisms of SWB in relation to leisure activities (games, in this case): a) *autonomy*, related to the intrinsic motivation for the task itself and referring to the sensation of independence, or freedom when taking part in leisure activities; b) *meaning*, regarding the value and relevance that an activity holds for the person; c) *mastery*, in terms of the effort made to improve one’s own abilities and to surmount challenges; and d) *affiliation*, when that activity promotes a feeling of belonging and connection to other people nearby.

This study examines these four mechanisms of SWB from the structural perspective of the game and the subjective perspective of the participant. This approach offers physical education teachers practical knowledge to understand how psychomotor games contribute to the improvement of SWB.

### **Structural perspective: The internal logic of motor games**

Motor praxeology has brought the concept of internal logic (Parlebas, 1981) to the field of Social Sciences, and it allows the internal properties or “specific state of affairs” (Suits 1978) of a motor game or sport to be understood. The internal logic of any motor game or sport requires each participant to find solutions to four types of relation: to others, to space, to time and to equipment (Lagardera & Lavega, 2003).

If a person decides to do juggling alone using four objects, the internal logic of this psychomotor game indicates that he or she intervenes without interacting with other participants (relation to others), in a space whose conditions do not change (relation to space), without the existence of competition or a pre-established mode of ending the motor task (relation to time) and employing up to four tennis balls (relation to equipment).

Every game is different because it has a distinct internal logic, that is to say, it activates internal relations in an uneven manner. Based on this concept, motor praxeology classifies motor games and sports by the type of motor relation existing among the participants (presence or

absence of motor interaction) and the type of relation to space (stable, when there is no uncertainty, and unstable, when there are unforeseen events and information that needs to be interpreted) (Parlebas, 1981).

In both types of space, four groups of motor experience or motor action domain have been identified: a) *psychomotor*, in which players cannot motorly interact with each other, e.g., a 100 metre sprint or a long jump in athletics; and *sociomotor*, represented by three classes of motor practices: b) *cooperation*, where two or more people motorly help each other to achieve a common goal (e.g., synchronised swimming); c) *opposition*, where one player is pitted against another (e.g., tennis); and d) *cooperation-opposition*, where one team is pitted against another (e.g., basketball).

Each of these four motor action domains may be executed competitively or noncompetitively, that is to say, with or without a final score. This study examines the state of SWB triggered by competitive psychomotor games (CPG), at the end of which participants are classified on a scale: time, distance, score according to a code of ethics or frequency obtained (Etxebeste, Del Barrio, Urdangarin, Usabiaga, & Oiarbide, 2014), thereby identifying who wins and who loses.

### **Subjective perspective: The individual and the group**

A game's internal logic can be interpreted from outside the rules of the game, by an external logic or subjective logic (Lagardera, 2005; Parlebas, 1981). Faced with the same game, each person acts in accordance with his or her own motor competencies and also assigns different meanings to it in accordance with his or her personal motivations or feelings of belonging to a group (Goffman, 1967; Lagardera & Lavega, 2003). Thus, the internal logic of a game is filtered and acquires meaning from the logic of each player or group (Etxebeste, 2012; Etxebeste et al., 2014; Parlebas, 1981).

### **Seeking SWB in psychomotor games with a score**

When a person adapts to the internal logic of a psychomotor game, a process that contributes to the improvement of SWB is activated (Lavega et al., 2011). In games like these, the participant reproduces a sequence of motor actions that are cyclically combined over and over again (Lagardera & Lavega, 2003). For example, when performing a high jump, the sequence consists in: a) doing a short run-up, b) driving the body upward and forward when reaching the take-off area, c) jumping over the bar by altering the body's position, and d) finally landing on the pad. As a result of programmed repetition, the high jumper puts his or her own strategy into practice (autonomy) to act with greater success each time (mastery). This is when that game may involve a new challenge (bettering the previous score) and provides each participant with a different value (meaning).

Previous studies have found that the presence of competition in different types of game, and psychomotor games in particular, is a reason for clear emotional effervescence (e.g., Lagardera, 1999; Lavega, Alonso, Etxebeste, Lagardera, & March, 2014; Lavega et al., 2011; Lavega, Costes, & Prat, 2015). However, it was necessary to add to these studies in order to reveal the interpretation that each person makes of his or her SWB.

The internal logic in these games takes the players towards a specific purpose, in which the match concludes with a score that establishes who wins and who loses (Lavega et al., 2014). Enjoying the process of the game or considering that only victory is beautiful are two distinct approaches that respond to two types of SWB motivation or orientation. According to achievement goal theory (e.g., Guan, McBride, & Xiang, 2006), a person may orient his or her goal towards making an effort to demonstrate competence (mastery) in the process of performing the task (i.e., orientation towards the task, intrinsic motivation or task climate, Cecchini, González, Carmona, &

Contreras, 2004). In contrast, there are some people whose success goal consists in demonstrating greater capacity than others; here, the outcome is the important issue (i.e., orientation towards the ego, extrinsic motivation or ego climate, Cecchini et al., 2004).

The results of this study would be important to teachers who may wish to understand why the use of psychomotor games in physical education provides an excellent way of fostering optimum experiences of SWB in students. Use of this approach in teacher education programs will facilitate the development of a type of physical education that relies on scientific data, something that is beginning to be implemented by some European and South American universities.

In view of this theoretical framework of reference, the aim of this study is to identify which structural traits (of the internal logic of games) and which subjective traits (of the individual and group subjective logic), oriented towards the task or the ego, triggered states of SWB (related to mastery, affiliation, autonomy and meaning) in participants in CPG.

## **Method**

### **Participants**

The sample consisted of 218 participants from a public university who ranged in age from 18 to 25 years ( $M = 20.3$ ,  $SD = 2.73$ ), of whom 59 were female and 159 male. They were all first-year undergraduates pursuing a physical education and sports science degree. The study was conducted within the context of a physical education and well-being pedagogical experiment, the aim of which was to arouse curiosity and awareness among these university students, who would become future educators about the factors promoting positive motor experiences. This experiment was performed in the Theory and Practice of Motor Games subject, and the results of the students' assessment of this formative experiment were published in 2015 (Lavega et al., 2015). All the students gave their consent to participate in the study, which was also approved by the research ethics committee of the University of Lleida, Spain.

### **Instruments and procedure**

#### ***Educating students' emotions***

The participants took part in three sessions, each lasting 1.5 hours, in which they were provided with theoretical and practical knowledge about emotions based on the model by Bisquerra (2003) and Lazarus (1991). In these three sessions, the students learned how to identify their own emotions by means of exercises involving traditional game situations. For instance, after playing a game of skittles, they were asked to describe a point in the game in which they had identified one of the emotions that had previously been explained to them: joy upon leaving a single skittle standing, surprise when the last standing skittle did not fall, sadness when a person was beaten for the third time, or hope that a player would not become a loser again, etc.

#### ***Selection and application of motor games***

The participants received two sessions of individual games (see Table 1), each lasting 1.5 hours (five games per session). The games used were chosen on the basis of two criteria: a) traditional games that were well-known within Spanish culture; and b) both sessions used competitive games (involving a winner and a loser).

**Table 1.** Description of the CPG used in this study

<b>Type of game</b>	<b>Description</b>
<b>CPG</b>	There is no motor interaction between players. Each player competes against another, either in parallel zones or by taking turns.
<i>Stone Race</i>	There is a row of 15 stones 0.5 metres apart in front of each player. Each time, the player picks up a stone and drops it in a box. The player who finishes first is the winner.
<i>Get Close</i>	Each player throws an object (a round object or a stone) and tries to get it as close to a line situated 5 metres away. The player who wins most times out of 9 attempts is the winner.
<i>Mark</i>	Each player holds a lance (stick) in one hand and, without letting it go or moving his or her feet, must make a mark on the ground as far away as possible using the other hand. The player who does best out of 5 attempts is the winner.
<i>Sack Race</i>	After stepping into a sack, each player must cover a distance of 15 metres by jumping. The player who does best out of 3 attempts is the winner.
<i>Three Sticks</i>	Three pieces of rope 1 metre apart are placed on the ground. Each player jumps on the ground on one leg only between each piece of rope. After each attempt, the pieces of rope are further separated by a step. When a player can no longer continue, his or her rival is proclaimed the winner.
<i>Throw, Hit and Win</i>	Each time, a player throws a tennis ball to hit an object on the ground. If a player manages to hit it, he or she is awarded 1 point. The player who gets 15 points is the winner.
<i>Seven and a Half</i>	A 5 x 5-metre area is marked out on the ground. Inside this area, 5 equal boxes are marked out and numbered (from 1 to 5), as agreed by both competitors. Each player has 5 objects and has to try and get 7.5 points. Each object scores the number of the box in which it falls. If it touches a line, it scores 0.5 points. The player who does best out of 10 attempts is the winner.
<i>Backward Trainer Throw</i>	At the same time, each player throws a trainer forward under his or her legs. The player who does best out of 5 attempts is the winner.
<i>Get a Stone as Far Away as Possible</i>	Each player tries to get a stone as far away as possible on the ground, without resting on his or her hands or throwing it. The player who scores 10 points first is the winner.
<i>Pitcher Carrying</i>	Each player carries a cone on top of his or her head and a basketball ball in the palm of his or her hand for 20 metres and then returns to the start. The player who does best out of 3 races is the winner.

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***Analysis of qualitative data (subjective explanations of the emotional intensity felt)***

The intensity of emotions experienced in each game was assessed by means of the Games and Emotion Scale (GES), validated by Lavega et al. (2011). The explanations given by the participants for the strongest emotions felt were analysed by considering the use of arguments referring to the structural aspects of the game, that is to say, to the internal logic of the game itself, to the competition or to the final outcome. Statements such as, “Although I didn’t like the game that much, I’m happy I won,” “I won loads of times and that made me happy” or “In the final of the game, I almost came up from behind and that made me feel good” were marked as showing the presence of structural aspects of the game, because they included expressions or words that referred to the internal logic.

A further consideration was whether the arguments referred to subjective aspects related to oneself or to others, that is to say, corresponding to participants’ individual or group logic. Statements such as, “I feel happy to have won against such a fast runner,” “I had a good laugh with the others even though I didn’t win” or “I had a laugh with my classmates... despite losing, I had a great time” were marked as showing the presence of subjective aspects of the game (participants’ individual or group logic).

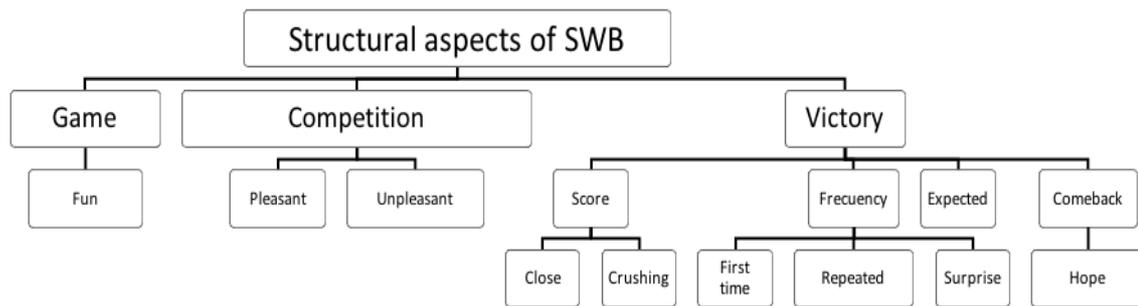
A coding manual was drawn up for the observers and included a) the system of categories; b) the code for each category; and c) examples of each category. Six experienced observers completed a minimum of 40 hours of training on how to code the data, following the guidelines set out by Anguera and Blanco (2003). To assess data reliability, each of the six observers analysed 100 statements. These data were then compared, and interobserver reliability was measured by means of the kappa index, which yielded values ranging from .78 to .84.

**Results**

The study examined 722 comments that gave reasons for the type of well-being or ill-being experienced from playing CPG. States of well-being were described in 563 texts (77.98%) and states of ill-being were described in 159 (22.02%).

**Structural aspects of SWB**

This study has identified two initial general aspects of the internal logic of games (Parlebas, 1981), referring to the level of gratification of rules (games are considered fun) and to a competition itself (which the participants may or may not like) (see Figure 1). At the same time, the quest for or consolidation of victory is also a source of SWB. The final outcome, be it victory or defeat, corresponds to one of the internal aspects of any competitive game. There are four main explanatory arguments of SWB (see Figure 1): a) score difference (close or crushing victory); b) victory frequency (first time or repeated victory); c) surprise victory; and d) hope in terms of making a comeback and ultimately winning.



**Figure 1.** Structural aspects of CPG that generate SWB

***Interest in the game makes people feel happy***

When people enjoy the game irrespective of winning or losing, it is evidence of their emotional intelligence: *I like games and am happy despite losing (Subject 1).*

***The presence of competitive tension may decrease SWB***

In a few cases (3), the competition itself generated anxiety that affected the well-being of the person who won: *Even though I won, the competition made me very tense and I didn't enjoy it (Subject 2).*

***Victory as a generator of well-being***

Victory provokes happiness in 409 accounts (90%); given the success obtained, hardly any accounts of ill-being were found (46 comments, 10%). In contrast, defeat ostensibly decreases SWB (154 accounts, 58%) and provokes the manifestation of ill-being (113 testimonials, 42%).

Nearly half of the participants considered that winning in its own right was more than enough reason to feel good: *I'm leaving this lesson feeling happy because of my victories (Subject 3).* Victory has more emotional force than the attractiveness of the game because, when a person wins, it is the success that counts: *Although I didn't like the game that much, I'm happy I won (Subject 4).*

***The outcome as a direct indication of SWB***

Many players place a great deal of importance on the score, as if it were directly responsible for the well-being experienced in different situations.

*a) Close score.* When the competition is very equal and there are high levels of uncertainty about the final outcome, it is easy to observe an outburst of happiness: *I'm very happy I won. What's more, I'm doubly happy because I won at the very last moment (Subject 5).* The final outcome provokes this outburst of well-being: *I'm very happy because the match was fairly equal, but I won in the end (Subject 6).*

*b) Crushing score.* In other cases, when there is a crushing victory, winning also yields a sensation of self-esteem and self-confidence that makes the person feel good almost immediately: *When you win easily, you feel happy about the victory (Subject 7).*

*c) Repeated victory.* Also, there are some people who feel joy when they repeatedly win: *I won loads of times and that made me happy (Subject 8).*

d) *The first victory is always special.* The sensation of SWB is intensified when the victory is achieved for the first time: *In the session, it was the first time I'd won and I'm happy because of that (Subject 9).*

**Excitement about victory intensifies SWB**

In 137 cases (11%), the very expectation of winning provokes a surge of excitement that yields a sensation of SWB. In this section, two representative cases have been identified.

a) *Excitement about bettering the score generates well-being.* In some cases, hope generated extra conviction, which enabled the competitor to win: *Throughout the game, I seemed to be losing, but I hoped I'd win and ultimately I did (Subject 10).*

Even under very adverse circumstances, changing the score makes the person excited and allows him or her to feel good: *I hoped I'd make a comeback because I was losing pretty badly, yet I ended up winning (Subject 11).*

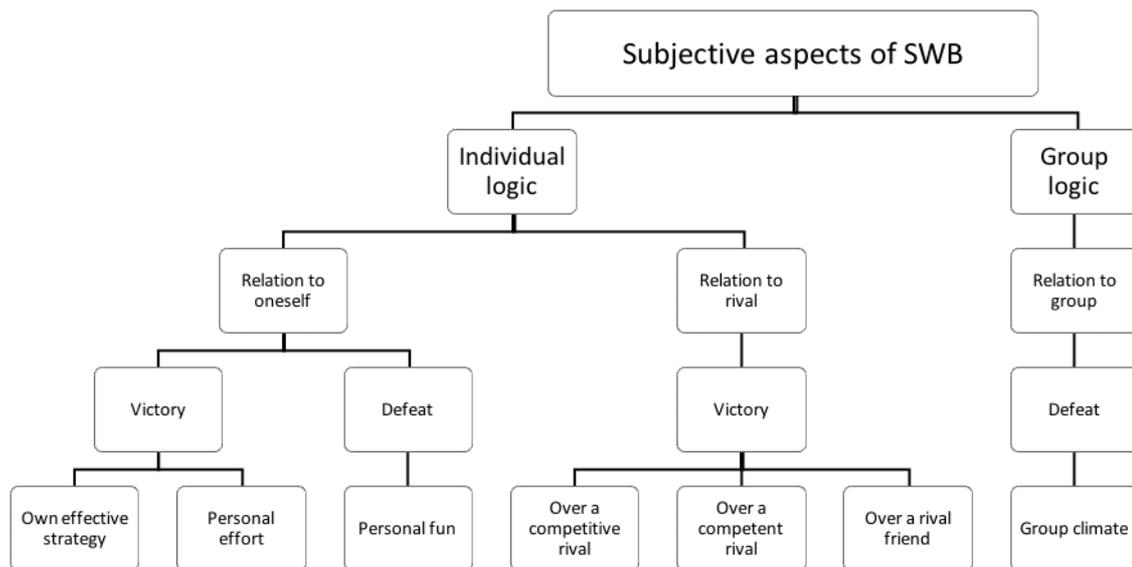
This process stimulates participation in the game and allows the experience to be a positive one: *In the final of the game, I almost came up from behind and that made me feel good (Subject 12).*

b) *Unexpected victory triggers SWB.* In this experiment, 18 people had the sensation of SWB on achieving an unexpected victory: *I feel really good about beating my classmate by surprise because I didn't think I was going to win (Subject 13).*

When, at the end of the game, a person manages to make a comeback and wins unexpectedly, he or she feels happy: *I was losing throughout the entire match, but surprisingly I won in the end (Subject 14).*

**SWB oriented towards one's subjective aspects (individual logic)**

This study has identified two subjective aspects referring to oneself and to the rival, and one related to the group that improve SWB (see Figure 2).



**Figure 2.** Subjective aspects of SWB generated by CPG

The first group comprises those arguments oriented towards subjective aspects of SWB related to oneself, as a consequence of the very intervention.

### ***Victory with effort triggers well-being***

The hard work and effort that the participant had to put in to win is another factor associated with SWB. Joy is obtained as a big reward for the effort made: *You are overjoyed when you win and can see that the effort was worth it (Subject 15).*

### ***If the person has fun, well-being may be increased***

It is very revealing to find that there was a group of participants (39 cases; 7%) who put fun before the possibility of winning or losing: *Despite having lost, I had a good time and a lot of fun (Subject 16).* Laughter or the task climate is a basic component to experience well-being: *I had a lot of fun, I enjoyed this game even though I lost because I had a good laugh (Subject 17).*

### ***An ineffective strategy may decrease well-being***

There were players who clearly recognised that they had got the strategy for winning wrong: *I was confident, but my strategy worked badly and his/hers worked well. I was surprised to lose (Subject 26).* Decisional and emotional reflection confirmed that the personal strategy led to defeat and a reduction in SWB: *My strategy failed... I think I was the only one from the class who started with the nearer pieces and I feel bad (Subject 18).*

## **SWB oriented towards others' subjective aspects**

### ***Victory over a rival generates well-being***

When victory is won over a competitive rival with an attitude oriented towards the ego, the sensation of SWB is intensified: *You're this happy when you win, and even more so when your opponent is peeved about losing (Subject 19).*

### ***Victory over a competent rival generates well-being***

SWB is also intensified when a rival who is considered *a priori* to be very competent: *I feel happy to have won against such a fast runner (Subject 20).*

### ***Victory over a barely competent rival decreases well-being***

Winning comfortably against a barely competent rival may decrease well-being. Thus, the euphoria of the victory may turn into sadness that stifles the joy of winning: *I was much better than my rival and, although I clearly won in the end, I felt sorry for him/her (Subject 21).*

### ***A rival's unexpected strategy may decrease well-being***

An unforeseeable outcome sometimes materialises at the last moment, despite the fact that a person believes that he or she will be able to perform the assigned task with assurances of success: *It was a big surprise for me. I was winning, but in the final straight, I realised that my classmate had overtaken me (Subject 22).*

***If the rival is a friend, victory may decrease well-being***

The circumstance of competing against a friend may turn the initial joy of victory into sadness when that person’s friend is clearly losing: *As I was winning by far, I felt bad; I felt sorry for my friend and allowed him/her to catch up a few points (Subject 23).*

***A positive climate of social relations generates well-being***

When the climate of the group and the task is very positive and good humour prevails, people’s SWB improves, even if they have lost. Within this context, the important issues are social relations, the atmosphere created in the game, classmates’ behaviour and prevailing good humour: *I had a good laugh with the others even though I didn’t win (Subject 24).*

This circumstance is highly revealing because it places well-being at the centre of social relations, specifically in a game with no motor interaction: *I had a laugh with my classmates... despite losing, I had a great time (Subject 25).*

**Orientation of SWB towards the task or the ego**

Four main examples of SWB oriented towards the task have been identified: a) interest in the game itself, which is fun; b) having no interest in competing; c) achieving a comfortable victory over a rival who is a friend; and d) feeling good despite losing, thanks to a good social atmosphere (see Table 2).

**Table 2.** Orientation towards the task or the ego in SWB generated by CPG

ASPECTS OF SWB	INDICATORS	ORIENTATION	
		Task	Ego
STRUCTURAL ASPECTS (INTERNAL LOGIC OF GAMES)	Fun game	X	
	Competition: Competitive tension appeals		X
	Competition: Competitive tension does not appeal	X	
	Victory: Close or crushing		X
	Victory: First time or repeated		X
	Victory: Unexpected		X
	Hope in terms of making a comeback and winning		X
	Victory: Own effective strategy		X
	Victory: Personal effort		X
	Defeat: Personal fun		X
SUBJECTIVE ASPECTS (INDIVIDUAL LOGIC)	Victory over a rival: Competitive (oriented towards the ego)		X
	Victory over a masterly rival:		X
	– Competent		
SUBJECTIVE ASPECTS (GROUP LOGIC)	– Unexpected strategy		
	Victory over a rival: Friend (affiliation)	X	
	Defeat: In a good social climate of good humour (task climate)	X	

**Mechanisms of SWB**

Autonomy, meaning and mastery were present in almost all of the comments directly related to the structural aspects of the game as well as to the subjective traits of participants (see Table 3). However, affiliation was just present in two aspects (remember that in any psychomotor games players could not motorly interact with each other).

**Table 3.** Main indicators of SWB generated by CPG

ASPECTS OF SWB	INDICATORS	ORIENTATION		MECHANISMS OF WELL-BEING			
		Task	Ego	Autonomy	Meaning	Mastery	Affiliation
STRUCTURAL ASPECTS (INTERNAL LOGIC OF GAMES)	Fun game	X		X	X		
	Competition:		X	X	X	X	
	– Competitive tension appeals						
	Competition:	X		X	X		
	– Competitive tension does not appeal						
	Victory:		X	X	X	X	
	– Close						
	– Crushing						
	Victory:		X	X	X	X	
	– First time						
– Repeated							
SUBJECTIVE ASPECTS (INDIVIDUAL LOGIC)	Victory:		X	X	X	X	
	– Unexpected						
	Hope in terms of making a comeback and winning		X	X	X	X	
	Victory:		X	X	X	X	
	– Own effective strategy						
	Victory:		X	X	X	X	
	– Personal effort						
	Defeat:	X	X	X	X		
	– Personal fun						
	Victory over a rival:		X	X	X	X	
– Competitive (oriented towards the ego)							
SUBJECTIVE ASPECTS (GROUP LOGIC)	Victory over a rival:		X	X	X	X	
	– Competent (masterly)						
	– Unexpected strategy (masterly)						
	Victory over a rival:	X		X	X	X	X
	– Friend (affiliation)						
	Defeat:	X			X		X
	– In a good social climate of good humour (task climate)						

## **Discussion**

The aim of this study is to identify which structural traits (of the internal logic of games) and which subjective traits (of the individual and group subjective logic), oriented towards the task or the ego, triggered states of SWB (related to mastery, affiliation, autonomy and meaning) in participants in CPG.

### **The influence of the system and actors on SWB**

This study confirms that two aspects – the system and actors – are necessary to be able to interpret SWB generated by playing CPG. This finding is consistent with previous studies (Elias & Dunning, 1992; Mauss, 1979; Lavega et al., 2014; Newman et al., 2014).

### ***Structural aspects (internal logic of games) and SWB***

The rules of CPG establish a number of conditions that orient a fun experience towards a unique affective experience (Lavega et al., 2014). A person has to find a solution to any task he or she is given without help from anyone else. Consequently, the study confirms that SWB is associated with enjoying solitude and autonomy in order to overcome difficulties (Lagardera & Lavega, 2003; Parlebas, 1981). In addition, when competition is introduced, participation is oriented towards a score that compares the participants' interventions. In this case, the comments analysed confirm that SWB is related to the competitive tension generated by the motor confrontation that classifies the individuals' effectiveness (Etxebeste et al., 2014).

### ***Subjective aspects (individual and group logic) and SWB***

On other occasions, SWB is associated with subjective aspects related to oneself, to the rival or to the group (Guan et al., 2006). There are three sections related to oneself that improve SWB (see Table 3 or Figure 2): a) victory as a result of an effective individual strategy; b) victory as a result of personal effort; and c) personal fun despite defeat.

Regarding the rival, SWB improves when a person wins against a very competitive rival who does not like losing, or when an opponent is very competent or employs an unexpected strategy. Finally, well-being decreases when a person wins comfortably against a friend.

Regarding the group, despite defeat, a person may experience SWB if there is a good climate and good humour in it. These arguments are consistent with previous studies (e.g., Cecchini et al., 2004; Etxebeste et al., 2014).

### **Orientation of SWB towards the task or the ego**

Arguments with an orientation towards the task reflect that a person prioritises other aspects external to the competition and victory to obtain SWB. These arguments are consistent with those by authors who develop factors associated with the task climate (e.g., Cecchini et al., 2004; Guan et al., 2006).

In competitive games, the participants, most of whom have sporting backgrounds, obtain well-being by comparing outcomes and demonstrating that they are the best (Cury et al., 1996). Here, the competition generates SWB and the comments describe the merit of victory, whether highlighting the score difference, victory frequency, surprise victory or making a comeback. Also, SWB is observed if a person wins with an effective strategy or personal effort, and if a person wins against a competitive or competent rival. However, a person may show a preference for one of these orientations (task or ego) or share them (Cury et al., 1996).

## **Mechanisms of SWB**

### ***Autonomy and meaning***

The internal logic of CPG, as reflected by many comments on SWB, requires a person to act with *autonomy* to find a solution to any situation (Parlebas, 1981). At the same time, each person's assessment is different, thus confirming that, in each game, well-being arises when we feel that something meaningful happens to us (Haga, Kraft, & Corby, 2009). The *meaning* of SWB may be oriented towards the task or the ego, and also towards structural or subjective aspects (Cury et al., 1996). As most of the students have some sporting background, we believe that there is a predominance of comments oriented towards the ego climate, where SWB is associated with the desire to compare oneself to others (Thoman et al., 2007).

### ***Mastery and affiliation***

*Mastery* was present in all of the comments directly related to a victory. The individual feels competent when achieving a victory (under different circumstances), when making an effort or employing effective strategies, and also when beating tough rivals or surmounting unexpected strategies (Barrios, 2014).

When SWB is associated with *affiliation* or importance is placed on social relations (Guan et al., 2006; Thoman et al., 2007), contradictory situations may arise, e.g., experiencing ill-being when beating a rival who is a friend, or experiencing well-being after losing if there has been a good group atmosphere.

Finally, we consider that the results of this research should be taken with caution. The main limitation of this study is that the sample was solely composed of university students (most of whom have sporting backgrounds) in a physical education and sport program. This was done in the context of an experience that sought to raise the awareness of prospective physical education teachers regarding the importance of linking playing games to SWB, specifically by encouraging them to reflect upon their own experience with competitive psychomotor games. In a second phase, we aim to extend the analysis to primary and secondary school students.

Given this limitation, however, the study provides ample evidence for physical education teachers that want to foster subjective well-being (SWB) in players.

## **Conclusion**

The systemic condition of SWB provoked by CPG highlights the force of the structural traits of such games and of the subjective aspects of the participants (Newman et al., 2014). The internal logic of CPG stimulates the autonomy of the player, acting alone, and makes positive emotions surface on winning under very different circumstances. Competition promotes the meaning of developing mastery and orients SWB predominantly towards the ego.

As CPG do not involve motor interaction with other people, SWB is associated with subjective aspects related to oneself or to the rival. Because of the nature of the games in this case, it is reasonable to assume that there were hardly any comments related to the class climate (*affiliation*), which contrasts with previous studies on cooperative or group games in which it is highly present (e.g., Lavega et al., 2011, 2014).

The analysis of the participants' comments delved deeper into previous studies' findings, which were based on quantitative data related to emotional intensity. The study confirmed that CPG improves people's levels of satisfaction and promote the presence of positive feelings and a decrease in negative feelings (Diener, 1984). All of this is of great interest when it comes to fostering SWB within the recreational or educational context.

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