

# Extracurricular physical activities: Motivational climate, sportspersonship, disposition and context. A study with primary 6th grade students

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## ABSTRACT

The objective of this study has been to examine the relationship between Perceived Motivational Climate, Sportspersonship, Disposition and Context where extracurricular physical activity is done. The participants were 256 6<sup>th</sup> grade students. The questionnaires applied were: PMCSQ-2 (Orientation to Ego or Task), MSOS (Orientation to Sportspersonship), IEPA (Disposition) y AYES (Context). An instrumental and empirical study was made. On the instrumental study, factorial analysis was made and internal consistency of the questionnaires was verified. On the empirical study, extracurricular sports practise negatively correlates with Respect and Interest on Adversary factor; Regarding motivational climate, Ego Climate negatively correlates with every factor in a statistically significant way, except with Progression and Effort on training; Task Orientation Motivational Climate correlates with every factor, been this correlation negative with Ego Orientation Climate and with the Number of Hours of Weekly Training. Mean difference depending on gender shows that males give higher values on Ego Orientation Climate and females on Respect and Interest on the Adversary factor. Analysis of variance showed statistically significant results depending on the sport played, with higher values on Task Climate, Progression on Training and Respect and Interest on the Adversary for those who play artistic activities, on Interest on Training and Respect for Social Conventions for those who play opposition sports; depending on the amount of time for weekly sports practise, those who spend more than five hours per week give higher values on Task Climate and those who only spend one or

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two hours per week on Respect and Interest on the Adversary. **Key words:** EXTRACURRICULAR PHYSICAL ACTIVITIES, MOTIVATIONAL CLIMATE, SPORTSPERSONSHIP, DISPOSITIONAL VARIABLES, CONTEXT VARIABLES.

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## INTRODUCTION

The Royal Decree 126/2014, which establishes the curriculum for the Primary Education stage, in its ANEX II about the specific subjects, when it comes to Physical Education (PE), explains that 80% of students only practise physical activity at school. This is a worrying situation when facing problems such as sedentariness, risk factor in some of the most common illnesses in our society. Nowadays, the PE area has only two hours, or two hours and a half as its best, per week, much more inferior than the recommendations of the European Commission/EACEA/Eurydice (2013) which establishes one hour of PE daily. Since long time ago, the extracurricular physical activities have been supplying the lack of academic load in the PE area in our school system.

Traditionally, benefits such as the 'spirit training' or the 'value transmission' have been attributed to PE and sport. Nowadays, thanks to the dominant theoretical framework, the achievement goal theory (Cecchini, González González-Mesa, Méndez, Fernández-Río, Contreras Jordán, & Romero Granados, 2008), we know that these benefits actually depend on the orientation of this physical education. This approach can be oriented to the 'ego' or to the 'task'. In rough outlines, we can consider that the 'ego' orientation promotes the competitiveness, being the success synonym of being better than the others, that is to say, a social comparison is established in order to determine the participants' performance degree. On the other hand, the 'task' orientation promotes the cooperation, the goal in this case is to surpass yourself, and the social comparison is omitted, and the subject progression with reference to their own ability is judge.

Other authors, (Carreres-Ponsoda, Escartí, Cortell-Tormo, Fuster-Lloret, & Andreu-Cabrera, 2012) have shown that teenagers who practise sport in extracurricular timetable reveal significantly higher self-efficacy levels, prosocial behaviour and personal and social responsibility than other same-age subjects who spend their free time doing other type of activity or than those who do not practise any extracurricular activity.

Taking into account the legal provisions of the Primary Education curriculum related to values, cooperation, tolerance, respect, etc., it is necessary to wonder if the extracurricular activities are being developed in line with the educative plan. A way to verify this is checking if they are oriented to the 'ego' or the 'task'.

From the beginning of the century, researches carried out have been exposing the importance of the motivational climate. In the Valencian Community, a research among students aged 13 to 18 concludes that in the PE lessons the climate oriented to the task and the mastery should be promoted instead of the competition. This climate mentioned before, has a significant positive influence on the future intention of the sports practise (Escartí & Gutiérrez, 2001). That is to say, the task climate facilitates that young people continue practising sport in their adult life.

The 'task' orientation shows a positive correlation with the self-concept which has been studied by some authors (Carriedo, González, & López, 2013; García, 2003). In these previous researches it is suggested that the academic and familiar self-concept influence the academic performance in general (maybe it is not so noticeable in the PE area, probably due to the consideration of itself.) Independently of the orientation towards the 'ego' or the 'task' in the lessons of PE, a higher number of hours of extracurricular sports practise correlates in a positive way with the marks in PE and the academic performance in general. Moreover, these authors suggest that a higher amount of hours of sports practise contribute to reduce the nervousness and insecurity levels, improving the emotional self-concept through the physique, making easier the establishment of social relationships.

According to researches on medium or high contact sports, an 'ego' orientation is related to a higher active implication in the sport (Cecchini, Gonzalez, & Montero, 2007). In the last decade, some studies have been confirming that the 'ego' orientation is higher among the male sex than among the female sex, turning out to a higher physical self-concept and academic performance in the PE lessons in men than in women. (Carriedo, González, & López, 2013; González, Cecchini, Llavona, & Vázquez, 2010; Sánchez-Alcaraz, Gómez-Mármol, & Más, 2016).

Motivation is one of the most researched constructs in Education in general and in PE in particular. The incentives which motivate a person to persist in their actions to reach a goal are determined by motivation (Carriedo, González, & López, 2013). According to these authors, those incentives can come both from the inner of the subject and from the context in which their actions are carried out. Therefore, we can claim that there is a motivation of intrinsic character and another of extrinsic character. The motivational climate which is promoted from the extracurricular physical activities is going to have a significant effect in the persistence and the perseverance of the student body. This is why, it is important to study the relations among the achievement goal orientation and the motivational climate in these activities.

It should be forgotten how important it is for the sport and its continuity the fact that the sportspeople have confident, self-esteem and competence perception when they practise the skills of the sport which they practise regularly, which will increase the motivation for this practise (Sari, Ekici, Soyer, & Eskiler, 2015), but the self-esteem is reinforced by the competitiveness perceived (D'Anna, Rio, & Paloma, 2015) which expose the importance of the climate created in the training focused on the confidence, cooperation and the task to guarantee the continuity and the commitment.

According to Granero-Gallegos & Baena-Extremera (2014), the main predictor of the self-determined motivation in teenagers is the performance climate for the male sex and the learning climate for the female sex.

The dispositional and context variables research is in line with previous researches on auto-regulated learning whose perspective is based on the interactivity and the interrelationship with the teaching method (Alonso-Tapia, 2005; Alonso-Tapia & Pardo, 2006; De-la-Fuente & Justicia, 2007).

The sports classification is a complex task which has associated a huge variety of terms and approaches, therefore we talk about individual, collective, team, adversary, collaboration, opposition, invasion, etc. sports. In order to give a unitary sense to this investigation we will have into account the classification which is exposed in the current curriculum of Primary Education inspired in the Parlebas proposal (2001). In this classification they are taken into account the motor individual actions in stable environments (athletics, swimming...), motor actions in opposition situations (judo, tennis...), motor activities in cooperation situations, with or without opposition (acrobatics, basketball...), motor actions in physical environment adaptation situations (mountain bike, skiing...), and motor actions in artistic or expression situations (dance...).

The main aim of this work has been to know if the motivational climate perceived in the extracurricular physical activities by the primary 6<sup>th</sup> grade students is related with the context variables and la dispositions towards the training and the sportpersonship.

In turn, this aim has been divided into several specific aims which expect to verify:

1. If the questionnaires used are suitable for the participant characteristic in terms of reliability and factor distribution.

2. If the origin of the sports modality choice can influence the disposition towards the sports practise.
3. If the participants sex can be a variable which will influence in the motivational climate perception and the context where the training is carried out, and the disposition towards the training and the sportpersonship.
4. If the amount of hours spent on training the different sports modalities can be a variable which will influence in the motivational climate perception and the context where the training is carried out, and the disposition towards the training and the sportpersonship.
5. If the amount of training hours, the motivational climate and the context where the physical activity is carried out is correlated with the disposition towards the training and the orientation to the sportpersonship.
6. If any context or motivational climate factor perceived in the training can predict the orientation to the sportpersonship and the disposition towards the practise.

## METHOD

### **Participants**

A sample of 256 subjects (146 of male sex and 110 of female sex) was used. All the participants are primary 6<sup>th</sup> grade students belonging to 9 schools of the Principality of Asturias assigned by the Ministry of Education, aged 10 to 12 and all of which practise extracurricular physical and/or sport activities.

### **Tools**

The following questionnaires were used: Perceived Motivational Climate in Sport Questionnaire-2 (PMCSQ-2); Multidimensional Sportpersonship Orientations Scale (MSOS); Learning interest, effort and progression as dispositional (IEPA), and Help the Students (AYEs). They had a scoring scale type Linkert with a rank from (1) *Strongly disagree* to (5) *Strongly agree* with the statements given.

### **PMCSQ-2**

Given a sports context, this questionnaire measures with 33 items the perceptions of the dominant motivational climate, taking into account the implication climate factors in the task, in the subscales (punishment, unequal recognition and rivalry) and implication climate factors in the ego as well, and also in three subscales (cooperative learning, effort/improvement and important role). A Spanish adaptation for the Physical Education (González-Cutre, Sicilia, & Moreno, 2008) from the English sports version (Newton, Duda, & Yin, 2000) was used to develop PMCSQ-2.

### **MSOS**

It measures the sportpersonship orientations and it consists of 25 items distributed in 5 subscales: social conventions, rules and officials, commitment, opponent and approach. The Spanish validated version by Martín-Albo, Nuñez, Navarro, & González en 2006, translated from the English version (Vallerand, Brière, Blanchard, & Provencher, 1997) was used.

### **IEPA & AYES**

Both questionnaires allow to measure, on the one hand, the interest, effort and learning progression as dispositional variables (IEPA), and on the other hand, if the teacher (trainer in this case) awakes interest, values the effort and helps to learn in the context where the practise is carried out (AYES). Each scale has 12 items. The version used is from Cecchini, González-Pienda, Méndez-Giménez, Fernández-Río, Fernández-Losa, & González (2014) and it was validated for the subject PE, Language and Literature and Mathematics.

### **Procedure**

In the PMCSQ-2 application, the terms *Teacher*, *Student* and *Subject* were substituted by *Trainer*, *Participant* and *Sports Activity* respectively, similarly to the English version questionnaire. And the same happened in the IEPA and AYES.

Once the permission of the General Administration of Teaching Staff and Educational Planning of the Education and Culture Ministry from the Principality of Asturias Government to carry out an investigation was obtained, we made contact with the schools' leadership teams. They were asked to collaborate and were informed about the goal of the research and the corresponding permissions were asked, guaranteeing the anonymity of the participants at all time. Under any circumstance were personal or identifying data collected. The questionnaire administration was carried out by the author of the investigation, giving the convenient instructions for the understanding and realization of the questionnaires, making clear any doubt that could appear and urging to answer with sincerity. The participation was voluntarily and the ethical principles were respected throughout all the investigation.

### **Result analysis**

This study was divided into two parts, first of all, an instrumental investigation in order to adapt and validate the scaled to the characteristics of the sample, and an empiric investigation to verify if the general and specific goals are achieved, which has been the starting point of this study.

The instrumental investigation has gone through a series of stages which are described below:

1. Calculation of the univariate statistics for each item of the scale: mean, typical deviation, variation, asymmetry and kurtosis, using for the analysis the statistic package SPSS.22.
2. Sedimentation Graph presentation to obtain an approximation to the appropriate number of factors (SPSS.22).
3. Dimensionality scale analysis. In order to get this, an exploratory factor analysis (EFA) was carried out using the programme FACTOR.10.

In the empiric investigation, the statistic package SPSS.22 was used again to calculate the results, and also through a series of stages described below:

1. In order to study the relations between independent variables (sex, quantity of sport, sports modality that they practise and the ones which they like the most), Contingency tables were used.
2. In order to study the comparisons of the measures given in the factors based on the independent variables, Student's t-test and Analysis of variance (ANOVA) have been used. Previously to the use of these statistics, the Levene's test was carried out in order to know if the variance homogeneity was satisfied or not, and in case the variances were heterogeneous, then the correction of the freedom degree was carried out through the Brown–Forsythe test, or the Student's t-test suitable for this situation was used.
3. In order to verify the correlation between factors and the number of daily hours of sports entertainment, the Pearson bivariate correlation test was applied.

## **RESULTS**

### ***Instrumental investigation. Exploratory factor analysis (EFA) of the used scales***

In this part of the study, it is necessary to carry out the instrumental investigation of the used questionnaires. On the one hand, the EFA of the questionnaires PMCSQ-2 and MSOS to verify if, when applying them to the

participants in the study, they followed the originals factoring, and on the other hand the EFA of the scales IEPA and AYES, since its validity in the extracurricular sports area had not been verified before.

The exploratory or semi-confirmatory factor analysis (EFA or SCFA) has been carried out using the programmes SPSS.22 and Factor.10.5 which verify the scale dimensionality. In order to determine the number of factors, we started showing the sedimentation graph which has an approximation of the number of factors recommended for each questionnaire. From the result obtained in the sedimentation graph, the method of Optimal Implementation of Parallel Analysis, proposed by Timmerman & Lorenzo-Seva (2011), carrying out 500 resamplings; the FA was carried out from polychoric correlations among variables; for the factoring, unweighted least squares are used, as in the rotation Promin method (Ferrando & Lorenzo-Seva, 2014).

Below we can find the results obtained in each scale and the decisions taken from these results.

### **Factorial analysis for the Perceived Motivational Climate in Sport Questionnaire (PMCSQ-2)**

The sedimentation graph with all the variables, points out three factors (see figure 1).

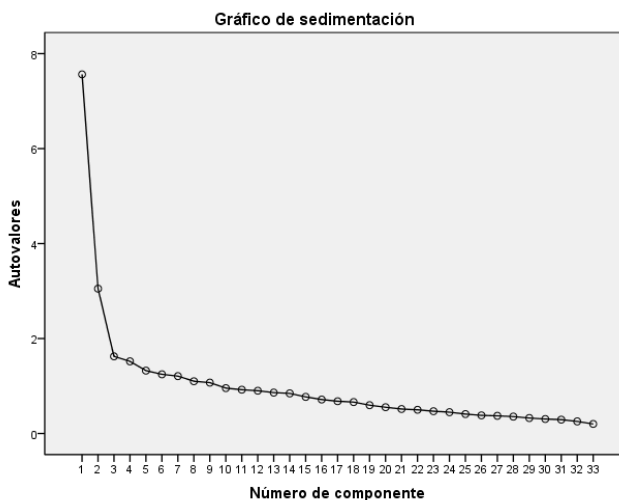


Figure 1. Sedimentation graph for the questionnaire PMCSQ-2.

Following, it is tested if the participants come from cities with the same variance and if a good sampling adequacy is justified. Bartlett's test [2786.4 (Df = 528; P = .000010)] and Kaiser-Meyer-Olkin (KMO) Test = .848, reveal a good data fitting to be subjected to a factorial analysis.

In a first application of the programme it has been asked to rotate three factors, but the factoring did not have an appropriate association, some items were charged in two factors at the same time, or even in three, with a difference of less than .100 between them, and therefore some items would disappear and one of the factors would only had two, which makes impossible to take into account a dimension configured with two variables. Moreover, the programme recommended rotate only with two dimensions and thus we proceed like this.

The EFA results explain the 40% of the total variance of the two extracted factors. The goodness-of-fit index (GFI) is .96 and the root-mean-square residuals (RMSR) .06. The data extracted show a reasonable fitting of the structure in two factors for these items (García-Cueto, Gayo, y Miranda, 1998).

The questionnaire has been configured with the 33 variables distributed in F1: Climate Orientation to the Task (Cl.Task) and F2 Climate Orientation to the Ego (Cl.Ego). The questionnaire reliability, just like it has been configured, is acceptable, having a Cronbach's alpha of .778 in the C1. Task factor and of .897 in the C1. Ego factor. (Table 1).

Table 1. Rotated load matrix and reliability index for the questionnaire PMCSQ-2.

<b>Variables</b>	<b>F1: Task</b>	<b>F2: Ego</b>
In order to be assessed by the trainer you have to be one of the best	.814	
The trainer expresses clearly who are the best in the group	.785	
Only the classmates with the best statistics are praised	.728	
The trainer favours some classmates more than others	.722	
The trainer believes that only the best ones contribute to the group success	.704	
When classmates perform better than the rest of the class they are motivated	.699	
Classmates feel recognised when they improve	.693	
The trainer only pays attention to the best participants	.664	
Classmates are reproached when they make a mistake	.657	
Participants are afraid of making mistakes	.614	
The trainer makes sure that he/she improves the skills of those classmates who are not good	.613	
The trainer motivates the participants only when they are better than a classmate	.604	
The trainer pays more attention to the best ones	.594	
The trainer has their favourites	.549	
The trainer gets angry when a classmate makes a mistake	.546	
The trainer includes out the classmates who make mistakes	.435	
The trainer encourages the student to do their best		.648
Classmates are encouraged to improve their weak spots		.637
Each classmate has an important role		.634
Classmate help each other to improve and stand out		.621
Classmates work together, in teams		.586
The trainer encourages the participants to help each other		.575
The trainer shouts to the classmates when they do something wrong		.567
Each participant contributes in an important way		.526
Participants of all skill levels have an important role in the group		.524
Each participant feels themselves as important member of the group		.477
The effort is rewarded		.472
I have fun learning		.471
The participants are encouraged to be better than the other classmates		.467
The trainer believes that all of us are important for the success of the group		.441
The participants feel good when they make the maximum effort		.431
The trainers wants us to try new abilities		.406
Improving is the most important thing		.371
<b>Cronbach's alpha</b>	<b>.778</b>	<b>.897</b>



**Exploratory factor analysis for the Multidimensional Sportspersonship Orientations Scale (MSOS)**

It has been decided to use only items corresponding to Social Conventions (Soc. Conv) and Respect and concern for the opponent (Oppon), since they are the ones which are interesting for this study.

The sedimentation graph differentiates both factors (figure 2), and therefore an EFA has been carried out.

The results show a Barlett’s test, [654.1 (Df = 45; P = .000010)] and the KMO test = .838, which reveals a good data fitting to be subjected to factorial analysis. The data obtained in the EFA explain the 57% of the total variance of the two factors studied. The GFI is .99 and the RMSR .04, which shows a good fitting (García-Cueto, Gayo, & Miranda, 1998). They have an acceptable scale reliability, being the Cronbach’s alpha for the factor Soc. Conv of .727 and for the factor Oppon of .741. See table 2.

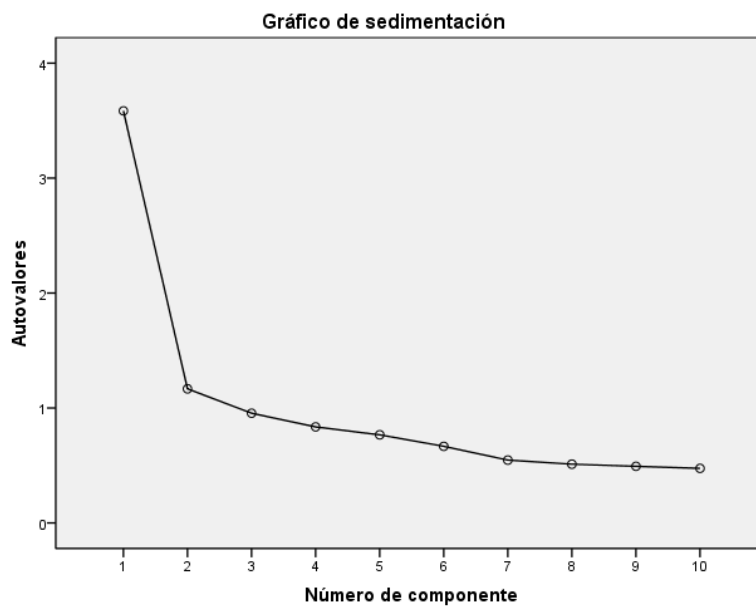


Figure 2. Sedimentation graph with the items studied in the MSOS questionnaire.

Table 2. Rotated load matrix and reliability index for the items studied in questionnaire MSOS.

Variables	F1: Opponent	F2: Social Conv.
If I see that the opponent is unjustly penalized, I try to rectify the situation	.866	
If I can, I ask the referee to allow the opponent who has been unjustly disqualified to keep on playing	.757	
When an opponent gets hurt, I ask the referee to stop the game so that he or she can get help	.483	
If by misfortune, an opponent forgets his or her equipment, I lend him my spare one	.428	
I help the opponent get up after a fall	.416	
Win or lose, I shake hands with the opponent after the game		.820
After a competition, I congratulate the opponent for his good performance		.746
When I lose, I congratulate the opponent whoever he or she is		.658
After a win, I acknowledge the opponent's good work		.651
After a defeat, I shake hands with the opponents' coach		.510
<b>Cronbach's alpha</b>	.741	.727

***Exploratory factor analysis for Learning interest, effort and progression as dispositional questionnaire (IEPA)***

In the sedimentation graph for all the questionnaire items the three factors can be seen. See figure 3.

The values of the Barlett's test [1214.9 (Df = 66; P = .000010)] and the KMO test = .870, state a good fitting to carry out the factorial analysis. The values obtained in the EFA explain the 72% of the total variance in the three factors studied. The GFI is .99 and the RMSR shows a value of .03, showing a good fitting (García-Cueto, Gayo, & Miranda, 1998).

The questionnaire has been configured as the original, with three factors: Progresses in the training (Progr), Makes an effort in the training (Effort) and Shows interest in the training (Inter), with acceptable reliability indexes, .791, .707 y .891 respectively. See table 3.

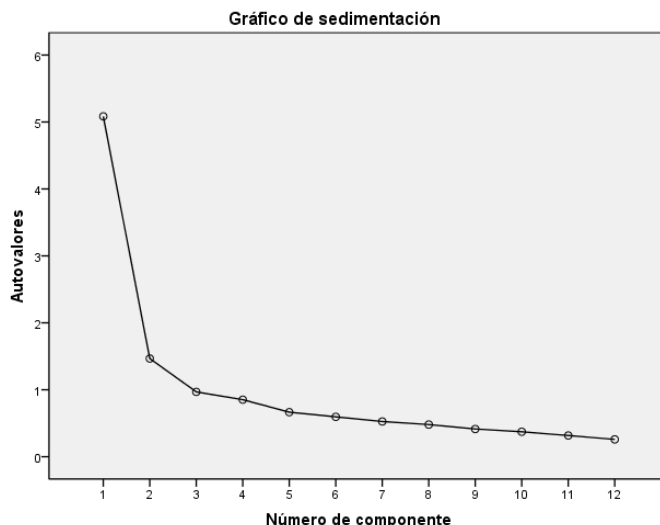


Figure 3. Sedimentation graph with the studied items in the IEPA questionnaire.

Table 3. Rotated load matrix and reliability index for the IEPA questionnaire.

(IEPA) During the sports practise	F1: PROGRESSION	F2: EFFORT	F3: INTEREST
11. I can notice my progress	.931		
08. I can see that I am improving	.872		
02. I can notice that my level improves	.732		
05. I can observe that my skills in the sports practise improve	.362		
03. I persist in my attempt to improve		.925	
09. I demand the best to myself		.737	
12. I try to surpass myself		.677	
06. I make an effort to learn		.413	
07. I have fun learning			.910
01. The learning process is fun			.867
04 I have fun learning			.835
10. The learning process is interesting and entertained			.791
<b>Cronbach's alpha</b>	<b>.791</b>	<b>.707</b>	<b>.827</b>

**Exploratory factor analysis for the Sports Practise Context Questionnaire (AYES)**

The sedimentary graph for the twelve items of the questionnaire contains only two factors. See figure 4.

The values of the Barlett’s test, [1214.9 (Df = 66; P = .000010)] and the KMO test = .870, state a good fitting to carry out the factorial analysis. Then we rotated the three factors which explain the original scale but the data are not suitable since two variables disappear from one of the factors, and therefore we should reject it and carry out the factoring with only two of the three factors of the original scale. The values obtained in the EFA explain the 68% of the total variance of the three studied factors. The GFI is .99 and the RMSR shows a value of .4, pointing out a good fitting. (García-Cueto, Gayo, y Miranda, 1998).

The questionnaire has been configured with two factors; The trainer helps to learn (Help Learn) and the trainer awakes interest (Awake Int) showing acceptable reliability indexes, .809 y .707 respectively. See table 4.

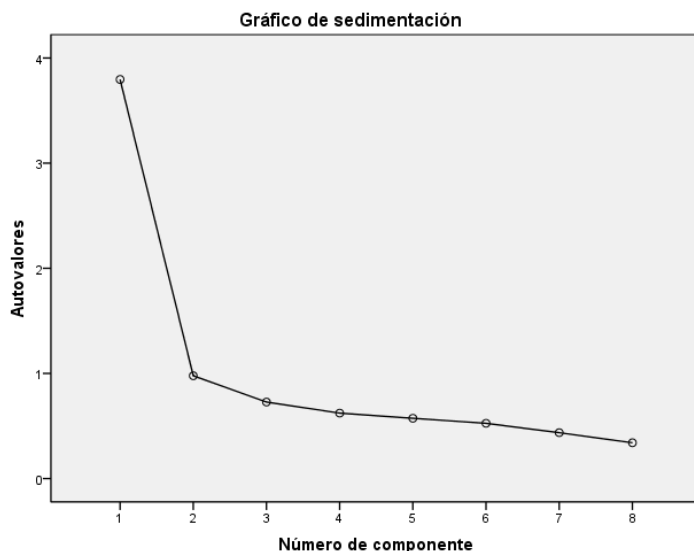


Figure 4. Sedimentary graph with the studied items in the AYES questionnaire.

Table 4. Rotated load matrix and reliability index for the AYES questionnaire.

(AYES) During the sports practise...	F1: HELP LEARN	F2: AWAKES INTEREST
The trainer helps us learn	1.003	
The trainer how to help us they do it	.733	
The trainer guides us adequately in the learning process	.647	
The trainer helps us when we have problems to learn	.531	
The trainer's proposals are funny		1.012
The activity offer is interesting and suggestive		0.851
The activities and tasks which are done in the sports practise are pleasant		.615
The tasks awake interest in the participants		.498
<b>Cronbach's alpha</b>	<b>.809</b>	<b>.707</b>

**Empirical investigation**

For this part of the study, the empirical investigation, to verify if the proposed goals are achieving, we have used the statistic package IBM SPSS.22.

**Contingency Coefficient**

First of all, the contingency coefficient has been calculated to compare the results among independent variables. When relating the sex with the quantity of weekly training, the results show that there is statistical significance ( $C = .312; p < .05$ ), being the males the ones who spend more hours practising sport, considering as little practise 1 or 2 hours weekly, as moderate practise 3 to 5 hours weekly, and as a lot of practise more than 5 hours weekly; with regard to the sports modality that they practise ( $C = .519; p < .05$ ), males practise

opposition sports and females practise artistic activities; and related to the modality that they like the best ( $C = .248$ ;  $p < .05$ ), opposition sports are the one which are most liked, mostly among males, however, females also like the most this modality (table 5).

Table 5. Contingency coefficient table relating the sex with the quantity of weekly training, the sports modality that they practise and the one they like the most.

	Variables	Males	Females	All	C	$p$
Quantity of weekly training	little	50	74	124	.312	.000
	moderate	60	24	84		
	a lot	36	12	48		
Sports modality practised	Individual	24	19	43	.519	.000
	Opposition	18	9	27		
	Coop. Opos.	98	23	121		
	Envirn. Adap.	4	6	10		
	Artistic	2	53	55		
Modality they like most	Individual	9	11	20	.248	.000
	Opposition	13	4	17		
	Coop. Opos.	89	47	136		
	Envirn. Adap.	7	5	12		
	Artistic	28	43	71		

### ***Bivariate Correlations***

Reaching this point, we have the correlation effects among the nine factors, which result from the three scales applied in the investigations and the weekly hours of sports practise.

It is observed that the extracurricular sports practise correlates negatively with the factor Respect and concern for the opponent, with a statistic significance  $p < .01$ , without having statistical significance with the rest of the correlations or a very little significance to be outlined.

With regard to the Perceived Motivational Climate in the training, it is important to highlight that the Ego Climate is correlated negatively with all the factors, in a statistic significance way, except with Progression and with Effort in the trainings.

The Task Orientation Motivational Climate is correlated with all the factors having a statistics significance of  $p < .01$ , being negative with the Ego Oriented Climate ( $p < .01$ ) and with the number of hours of weekly training ( $p < .05$ ).

The fact that the trainer awakes interest towards the training is correlated with all the factors, in a positive way and with a statistic significance of  $p < .01$ , except with the hours of training which is a negative correlation and with a statistic significance of  $p < .05$ , and with the Ego Oriented Motivational Climate, which has a statistic significance of  $p < .01$ , and also in a negative way.

Moreover, it can be seen that factors related to the trainer; the fact the they awake interest and helps to learn, is related in a positive way and with a statistic significance of  $p < .01$  with the factor Respect for social conventions and the factor Respect and concern for the opponent (Table 6).

Table 6. Bivariate correlations among factors and weekly training hours.

	1	2	3	4	5	6	7	8	9	10
1. Weekly training hours	1	.136*	.130*	.003	.125*	.103	-.138*	-.093	-.026	-.235**
2. Task Climate		1	-.351**	.383**	.390**	.390**	.324**	.494**	.355**	.335**
3. Ego Climate			1	-.261**	-.102	-.076	-.203**	-.351**	-.223**	-.288**
4. Training interest				1	.557**	.441**	.521**	.466**	.147*	.170**
5. Training progression					1	.613**	.377**	.415**	.193**	.165**
6. Training Effort						1	.325**	.419**	.238**	.210**
7. Trainer awakes interest							1	.610**	.183**	.255**
8. Trainer helps learn								1	.250**	.273**
9. Resp. Soc. Conven.									1	.496**
10. Resp. and concern for the opponent										1

\*\* The correlation is significant at the level 0.01 (bilateral).

\* The correlation is significant at the level 0.05 (bilateral).

#### **Average difference related to sex for all the factors. Student's t-test**

Student's t-test has been carried out to know if the average difference when it comes to the participants' sex has statistic significant differences in the nine factors studied.

With regard to Ego Orientation Climate, there are statistic significant differences between males and females ( $t = 2.896_{(2, 254)}, p < .05$ ) being males who had higher marks (DM = .301), on the contrary, in the factor Respect and concern for the opponent ( $t = -2.452_{(2, 243)}, p < .05$ ), they were females who has higher marks (DM = .282) and in both cases the Levene's test shows that equal variances are assumed. In the rest of factors studied, there are not sex differences statistically significant.

#### **Analysis of variance (ANOVA)**

The analysis of variance (ANOVA) in the Task Climate factor have obtained the statistic significant results related to the practised sports modality ( $F_{(4, 251)} = 2, 493, p < .05$ ) being the ones who practise artistic sports activities those who get higher marks and the ones who practise environmental adaptation sports activities those who get lower marks. (Table 7 and 8).

Table 7. Analysis of variance based on the practised sports modality (I).

Factors	F (4, 251)	p
Task Climate	2.493	.044
Ego Climate	1.667	.158
Trainer awakes interest	1.913	.109
Trainer helps learn	.881	.476

Table 8. Descriptive analysis based on the practised sports modality (I).

		M	DT
Task Climate	Individual	4.04	.502
	Opposition	4.27	.411
	Coop. Opos.	4.26	.520
	Environ. Adap.	3.93	.461
	Artistic	4.28	.470

Depending on the practised sports modality, statistically significant differences have been obtained:

The Training Interest factor ( $F(4, 251) = 3.002, p < .05$ ) being the ones who practise environmental adaptation sports activities and artistic sports activities those who get higher marks and the ones who practise opposition activities those who get lower marks.

The Training Progress factor ( $F(4, 251) = 4.053, p < .05$ ) being the ones who practise artistic sports activities those who get higher marks and the ones who practise individual sports activities those who get lower marks.

The Respect for social conventions factor ( $F(4, 251) = 2.816, p < .05$ ) being the ones who practise opposition sports activities those who get higher marks and the ones who practise individual sports activities those who get lower marks.

The Respect and concern for the opponent factor ( $F(4, 251) = 2.850, p < .05$ ) being the ones who practise artistic sports activities those who get higher marks and the ones who practise individual sports activities those who get lower marks. See tables 9 and 10.

Table 9. Analysis of variance based on the practised sports modality (II).

Factors	$F(4, 251)$	$p$
Training Interest	3.002	.019
Training Progression	4.053	.003
Training Effort	0.637	.636
Respect for social conventions	2.816	.026
Respect and concern for the opponent	2.850	.024

Table 10. Descriptive analysis based on the practised sports modality (II).

		M	DT
Training Interest	Individual	4.49	.694
	Opposition	4.41	.747
	Coop. Opos.	4.52	.630
	Environ. Adap.	4.80	.329
	Artistic	4.80	.472
Training Progression	Individual	4.35	.653
	Opposition	4.51	.502
	Coop. Opos.	4.51	.632
	Environ. Adap.	4.63	.395
	Artistic	4.79	.303

Respect for social conventions	Individual	3.95	.955
	Opposition	4.49	.455
	Coop. Opos.	4.29	.765
	Environ. Adap.	3.98	.733
	Artistic	4.27	.645
Respect and concern for the opponent	Individual	3.43	1.029
	Opposition	3.83	.559
	Coop. Opos.	3.56	.894
	Environ. Adap.	3.92	1.171
	Artistic	3.94	.912

Depending on the time of the sports practise, statistically significant results have been obtained in the Task Climate ( $F_{(2, 253)} = 3.554, p < .05$ ) being the ones who dedicate a lot of weekly hours to the sports activities those who get higher marks and the ones who dedicate few weekly hours to the sports activity practise those who get lower marks, and in the Ego Climate factor it has been similar, obtaining statistically significant results ( $F_{(2, 253)} = 3.055, p < .05$ ), being the ones who dedicate a lot of sports activity those who get higher marks and the ones who dedicate little weekly time to the sports activities those who get lower marks. See table 11 and 12.

Table 11. Analysis of variance based on the time of sports practise (I).

Factors	$F_{(2, 253)}$	$p$
Task Climate	3.554	.030
Ego Climate	3.055	.049
Trainer awakes interest	.761	.468
Trainer helps learn	.707	.494

Table 12. Descriptive analysis based on the time of sports practise (I).

		M	DT
Task Climate	little	4.13	.544
	moderate	4.27	.448
	a lot	4.33	.433
Ego Climate	little	1.99	.789
	moderate	2.17	.842
	a lot	2.32	.909
Trainer awakes interest	little	4.22	.760
	moderate	4.14	.590
	a lot	4.09	.672
Trainers helps learn	little	4.55	.622
	moderate	4.44	.660
	a lot	4.49	.709

The Analysis of Variance (ANOVA), depending on the time of sports practise, in the Respect and concern for the opponent factor have obtained statistically significant results ( $F_{(3, 253)} = 4.176, p < .05$ ) being the ones who practise sports activities during one or two hours those who get higher marks and the ones who practise sports activities during 5 or more hours those who get lower marks. See table 13 and 14.



Table 13. Analysis of variance based on the time of sports practise (II).

<i>Factors</i>	$F_{(2, 253)}$	$p$
Training Interest	.444	.642
Training Progression	1.195	.304
Training Effort	1.871	.156
Respect for social conventions	.090	.914
Respect and concern for the opponent	4.176	.016

Table 14. Descriptive analysis based on the time of sports practise (II).

	M	DT
little	3.80	.858
Respect and concern for the opponent moderate	3.62	.966
a lot	3.36	.926

The Analysis of variance (ANOVA), depending on the place of sports practise, in the Trainer Awakes Interest factor have obtained statistically significant results ( $F_{(2, 253)} = 3.447$ ,  $p < .05$ ) being the ones who practise municipal sports activities in facilities dependent on the local government those who get higher marks and the ones who practise sports activities in clubs or gymnasium those who get lower marks. See table 15 and 16.

Table 15. Analysis of variance based on the place of sports practise.

<i>Factors</i>	$F_{(2,253)}$	$p$
Task Climate	2.627	.074
Ego Climate	1.294	.276
Trainer awakes interest	3.447	.033
Trainer helps learn	1.802	.167

Table 16. Descriptive analysis based on the place of sports practise.

	M	DT	
Task Climate	School	4.12	.528
	Local government	4.44	.619
	Club o gymnasium	4.25	.475
Ego Climate	School	1.99	.726
	Local government	2.32	1.159
	Club o gymnasium	2.15	.860
Trainer awakes interest	School	4.24	.698
	Local government	4.65	.376
	Club o gymnasium	4.11	.692
Trainers helps learn	School	4.51	.638
	Local government	4.88	.243
	Club o gymnasium	4.48	.667

## DISCUSSION AND CONCLUSIONS

The interest in accomplishing a task showing competence in the action itself is called Achievement Motivation and it is different in each subject. From the last decades and at present, two goal orientations are considered:

an 'ego' orientation, in which the success is assessed based on the surpassed individuals, either teammate or opponent and a 'task' orientation, in which success depends on personal development or growth, exempt of comparison (Nicholls, 1984 y 1989). In the results, the bivariate correlations showed that the Ego Climate has a negative relation with the Training Interest, Trainer Awakes Interest, Trainer Helps Learn, Respect for Social Conventions and Respect and Concern for the Opponent factors. This suggests that the role of the person who directs the sports practise has an important weight in the motivational climate perceived by the students and in their way of obeying the rules and their relationship with the opponents. The current law which determines the Primary Education curriculum highlights this type of values and the teaching academic training is in line with this approach. From the present study and given the traditional relation of the extracurricular physical activities with the PE area (Torre, Cárdenas, & Girela, 1997), it seems recommendable that the training of the person who directs the extracurricular sports activities has relation with these values to encourage a climate oriented to the task.

The Student's t-test based on the participants' sex, showed statistically significant average difference in the Ego Oriented Climate factor, being the male sex who obtained higher marks. In the Respect and concern for the opponent factor the female sex obtained higher marks. This confirms which has been detected in previous studies (Carriedo, González, & López, 2013; González, Cecchini, Llavona, & Vázquez, 2010; Sánchez-Alcaraz, Gómez-Mármol, & Más, 2016), and makes us think in the importance of the Assessable Learning Standards gathered in the current curriculum which are focused on the respect of the body reality diversity and on the children's motor competence levels. In its spirit, these precepts want to palliate the differences caused by the gender roles and stereotypes which can be observed empirically in studies like the present one.

The analyses of variance (ANOVA) have shown significant differences depending on the sports modality which is classified according to the primary curriculum and based on the Parlebas' proposal (2001). This way of classifying the sports practise is based on the place where the uncertainty is located: in the environment, in the classmates, in the opponents or in the different combinations.

Then, we can talk about the motor individual actions in stable environments, motor actions in opposition situations, motor activities in cooperation situations, with or without opposition, motor actions in physical environment adaptation situations and motor actions in artistic or expression situations. The results resolved that the artistic-expressive physical activities are the most task oriented. Therefore it can be concluded that activities such as dance are recommendable in this stage and then, the benefits which traditionally have been associated to sports can germinate. Those benefits which today we know that they are actually related to the climate. Within the results, the artistic sports activities have shown positive correlation with the perception that the participants have of their progression and improvement, from which can be deduced that these activities favour the personal satisfaction associated to the feeling of being competent and progressing.

A higher number of training hours showed mayor relation with the ego-oriented climate, which makes us think that the overtraining can be harmful for the participants, not only at a physical level, but also at motivational level.

Finally, the results showed that the Trainer Awakes Interest factor varies in a statistically significant way according to the place of the sports practise, being those who practise municipal sports activities in facilities dependent on the local government the ones who got higher marks and those who practise sports activities in clubs or gymnasiums the ones who got lower marks. From this datum, we suppose that there can be

methodological differences among the people who direct the sports activities in the municipal facilities and those who do it in private companies.

## LIMITATIONS OF THE STUDY

The number of participants in this study and the geographical limitations of the centres in which the investigation has been carried out, the lack of understanding of some items, probably due to the age of the students, the relation that can exist between the extracurricular sports practise and the performance in the PE lessons, not having gone deeply in the importance and the influence of the parents in sports behaviour, and the lack of statistic knowledge to apply more powerful tests.

## FUTURES LINES OF RESEARCH

The present study, in spite of being a continuation of other researches carried out, it is also a start. Since, although some of the aspects treated have been studied in other fields, other ages, other contexts; it opens the door to the study and extension in an immediate future. A lot of future lines of research can be proposed, but the fact of showing a list of many and very ambitious possibilities does not mean that they can be carried out successfully. Sometimes it is better to focus on what can be covered so as to obtain acceptable results with the properly scientific range.

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