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**Original**

## EQUIDAD DE GÉNERO EN EDUCACIÓN FÍSICA DESDE LA PERSPECTIVA DE LA TEORÍA DE METAS DE LOGRO

## GENDER EQUALITY IN PHYSICAL EDUCATION FROM THE PERSPECTIVE OF ACHIEVEMENT GOAL THEORY

Castillo-Andrés, Ó. del<sup>1</sup>; Campos-Mesa, M. C.<sup>2</sup>; Ries, F.<sup>3</sup>

<sup>1</sup>University of Seville. Research Group HUM-507

<sup>2</sup>University of Seville. Research Group HUM-507

<sup>3</sup>University of Seville. Research Group HUM-507

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Correspondence to:  
**Óscar del Castillo**  
University of Seville. Research Group HUM-507.  
C/ Pirotecnia, s/n. 41013, Seville (Spain).  
Tel.+34670905026  
Email: [ocastillo@us.es](mailto:ocastillo@us.es)

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## RESUMEN

El conocimiento de los procesos de socialización de género y su relación con el profesorado y el deporte se ha convertido en un tema de gran interés social. El objetivo de la presente investigación es evaluar los factores motivacionales de los adolescentes y su relación con la formación equitativa del género dentro de las clases de Educación Física (EF) en seis centros de Enseñanza Secundaria de Sevilla (España). Para ello, hemos recogido datos a través de un cuestionario ad-hoc sobre una muestra de 430 estudiantes con edades comprendidas entre los 12 y 14 años. La validez del instrumento se llevó a cabo por tres medios distintos: estadísticamente, grupo de expertos y prueba piloto. La fiabilidad se estableció por un Coeficiente Alpha de Cronbach de .703. Para obtener las relaciones entre las respuestas de los estudiantes a las dimensiones del cuestionario y el género del profesorado, se realizó un análisis cluster a fin de obtener grupos homogéneos de acuerdo a ciertas características. Nuestros resultados muestran conductas sexistas en los factores motivacionales relacionados con la actitud hacia la EF, el interés por los deportes, la salud, la imagen corporal, las relaciones sociales, la motivación por aprobar la asignatura y entender la EF como alternativa al ocio pasivo. Los resultados indican que tenemos que orientar los contenidos de las clases de educación física hacia la tarea si queremos que el alumnado de ambos sexos muestre la misma motivación hacia las clases de educación física y si queremos educar de una manera más equitativa entre los géneros.

**Palabras clave:** interacción profesorado alumnado; discriminación educativa; educación secundaria; métodos observacionales; educación física.

## ABSTRACT

Knowledge of the processes of gender socialization and their relationship with teachers and sport has become a topic of great social interest. The aim of this study is to assess adolescents' motivational factors regarding gender-equal Physical Education (PE) in six high schools in Seville (Spain). We used an *ad-hoc* questionnaire on a sample of 430 students whose ages ranged between 12 and 14 years old. The validity of the questionnaire was confirmed using a group of experts, statistically and carrying out a pilot testing. Reliability was established by a Cronbach's alpha coefficient of .703. For obtain the relationships between the students' responses to the dimensions of the questionnaire and the teachers' gender, we conducted a cluster analysis to obtain homogeneous groups according to certain characteristics. The results reveal sexist patterns on motivational factors in regards to the students' attitude towards PE, interest in sports, health, body image, social relationships, avoiding to fail in this subject, understanding PE as an alternative to passive leisure. The findings indicate that we need to focus the contents of PE practical lessons towards the task, if we want that both male and female pupils show the same motivation towards PE lessons, and if we want the subject to be taught in a more gender-equal way.

**Keywords:** teacher student interaction; educational discrimination; secondary education; observation methods; physical education.



## INTRODUCTION

Knowledge of the processes of gender socialization and their relationship with physical education has become a topic of great social interest. This interest has been reflected in high level publications on the subject of gender, as demonstrated by more than 324 articles about motivation, and physical education in the prestigious research *British Journal of Educational Psychology* (e.g., Barkoukis, Hagger, Lambropoulos, & Tsorbatzoudis, 2011; Schwinger & Stiensmeier-Pelster, 2011).

What are the motivational factors of students to participate in the practice of gender-equal physical activities in PE lessons? This study tries to answer this question from a cognitive perspective using the Achievement Goal Theory (AGT) as a framework (Ames, 1992; Dweck, 1999; Nicholls, 1989). Replying to this question is very important for teachers because it will allow them to design the contents according to the students' real interests and thus increase the possibility of a deeper involvement in the practical sessions of PE. Achievement goal perspective is a suitable theory that allows carrying out research on motivation in adolescents in sports contexts.

The concept of *Need for Achievement*, taken from Murray (1938), will be taken as a starting point to explain what makes a person start, continue or abandon the practice of gender-equal physical activity (PA). According to Murray, a person will feel motivated to engage in an activity when it requires that the person shows competence in the contexts of achievement – understanding as 'contexts of achievement' all those in which pupils participate and which may be significant for their goals. The most important contexts are family, school, and exercise. As a result of the concept *Need for Achievement* (Duda, 1992; Maehr & Nicholls, 1980; Roberts, 1992), a school of authors who developed AGT was born.

In relation to AGT, Ebbeck, Gibbons, & Loken-Dahale (1995) foreground some personal and situational factors which can indicate the reasons for individuals to practice PA in the aforementioned contexts. Some of those factors are, for example: personal interdependencies, self-satisfaction, self-image, institutional reasons or staying fit (Alonso-

Tapia, Huertas, & Ruiz, 2010). The relationship between these factors will be essential to reinforce participation and perseverance when practising a specific PA (Arruza, 2008; Bortoli, Bertollo, Comania, & Robazza, 2011; Gutiérrez & Caus, 2006; Pérez-Samaniego, Iborra, Peiró-Velert, & Beltrán-Carrillo, 2010; Van de Pol & Kavussanu, 2011). It is needed that individuals think of or participate in a task on which they will be evaluated, in which they will have to compete or in which they intend to achieve a certain degree of mastery for motivational process to begin (Roberts, 2001). At the same time, the aforementioned factors will be important for different motivational behaviours that occur within the different contexts of achievement. According to Maehr and Nicholls (1980), there are some of these behaviours to be highlighted: Behaviours whose focus is to demonstrate capability towards the learning process, social approval or the achievement of goals.

Based on these behaviours, and following the framework of the AGT, there are two dimensions of the individual's motivation: 'task' and 'ego' (Nicholls, 1979). The choice between dimensions depends both on dispositional and situational factors. The achievement goals towards dispositional factors show the *disposition* of the individual to be involved with the task or with the ego (motivational goals). The achievement goals towards situational factors (motivational climate) refer to issues that are related to the performance or the mastery within the context of achievement. They also indicate the situational criteria that can influence the probability of embracing a specific degree of involvement in the task (Parish & Treasure, 2003).

Within the dispositional factors related to the task goal, success in PA is a consequence of the effort made in the task, with the purpose of showing what has been learned and the mastery of the task. This type of goal assesses improvement in competence, cooperation, self-confidence, social responsibility, positive affectionate feelings, obeying of rules, effort, and mastery of PA skills, among others (Escartí & Brustad, 2001; Wang & Biddle, 2001). From this point of view, motivation is intrinsic, regardless the performance of the rest of students, which creates more enjoyment, satisfaction and interest in PE, as well as gender equality (Castillo, 2009; Garcia-Mas et al., 2010; Gutiérrez, Ruiz, & López, 2010; Isiksal,



2010; Jiménez, Cervelló, García, Santos-Rosa, & Iglesias, 2007; Moreno, González & Cervelló, 2008).

In relation to the second dispositional factor (ego orientation, success is determined by a higher social status, the failure of others or an increase of financial wealth, leaving aside the means while focusing only on the end to achieve the desired goal (Cervelló, 1999). In this case, motivation for PA is extrinsic, success factors are less controllable, and there is a more disappointment, anxiety and abandonment of PA. This level is usually associated with unrealistic or unachievable goals, which are set against a comparison with other athletes (Cervelló, Escartí, & Guzmán, 2007). With respect to gender, the ego-oriented dispositional factor is associated with an increase in gender discrimination in PE lessons (Castillo, 2009).

Situational motivation factors also have an important impact on gender. Hence, authors such as Moreno, Martínez & Alonso (2006) point out positive and significant relationships when the task-oriented motivational climate seems to depict a gender-equal environment for the pupils. Moreno, Vera & Cervelló (2009) observed a larger sense of gender equality in perceived competences when PE is oriented towards the task. In the same way, the motivational climate involving the ego is related to a discriminatory perception. This statement is supported by researches that show that women seem to focus more on achievement of the goal rather or a motivation than on competition (Martín-Albo, Núñez, & Navarro, 2009; Sáenz-López, Sicilia, & Manzano, 2010; White & Duda, 1994).

However, not only there are differences depending on gender that have to do with achievement goals, but there are also motivational differences between men and women in regards to the content of PE lessons (Moreno, Martínez, González-Cutre, & Marcos, 2009). In this regard, Sánchez, Pérez & Godoy (1995) state that, generally speaking, the main motivation for adolescents to practice PA is to be healthy or fit, to create social relationships and to have fun. This data matches the results of studies from Moreno, Cervelló & Martínez (2007) and Porras (2007). Derry (2002) claims that while boys are only interested in the fun side of sport, girls are more interested in learning in a technical way through skills and game strategies. Other

investigations such as Torhild, Skaalvik & Espnes (2004) indicate differences by gender in the motivational global physical, endurance, strength, appearance, and body fat scales in favour of boys. Li, Lee & Solmon (2006) indicate greater motivation in the male to the task performance.

This research was undertaken to come to know the motivational factors for the pupils for a gender-equal PE, in order to verify the perception stated by teachers and to be able to respond to the different motivational factors for both girls and boys. Specifically, the aim was to discover the motivational differences of the students by gender in regard to the influence of PE, through exercise, health, physical appearance, socialization, weight loss and as an alternative to drugs. This study was also interested in assessing the motivation that students get from their PE teacher, their motivation in order not to fail in PE, the interest towards it and the usefulness of PA and PE for their own lives.

## METHODS

Based on the proposals of Cohen & Manion (1990), we created a questionnaire and carried out a survey to assess the differences in students' motivation toward PE classes in six schools of Secondary Education in Seville (Spain). The items shown in Table 1 are part of the final questionnaire that also contains about other areas related to gender equality in PE.



Table 1. Descriptive statistics of motivational items

Motivation	Items	Escale
	1. I practice PA for health	Yes / No
	2. I practice PA to improve my physical appearance	Yes / No
	3. I practice PA to socialize with others	Yes / No
	4. I practice PA to lose weight	Yes / No
	5. I practice PA to get away from tobacco, alcohol or other drugs.	Yes / No
	6. I realize the activities in PE classes in order not to fail	Yes / No
	7. Your interest in PA in general is ...	1 2 3 4 5
	8. Your interest in PE in general is ...	1 2 3 4 5
	9. PE classes are useful for everyday life	1 2 3 4 5

### Participants

The selection of the sample was carried out in six high schools in Seville (Spain). The adolescents ( $N = 430$ ; 251 boys and 179 girls) belonged to the first course of higher education (31.1%) and to the second course of higher education (68.9%), and their age ranged between 12 and 14 years ( $M = 13.1$ ,  $SD = .06$ ). School statistics indicated that the majority of pupils were Spanish, with less than 5% from other ethnic minority groups. School directors gave data on the socio-economic status of the participants. The students from the six schools come from a middle class area.

### Instrument

Bearing the aim of the present research in mind, an *ad hoc* questionnaire was used to collect the necessary data that would be later on analysed in relation to the pupils' motivational factors towards PE practical lessons (Table 1) using SPSS software students and 25 students).

### Procedures

Prior to data collection, the school principals granted us permission and were asked to act *in loco parentis* following APA ethical guidelines. All participants were informed that their involvement was being requested for scale development as part of a dissertation. Participation in the survey was voluntary, anonymous and all ethical procedures were respected when collecting data. Six investigators (three male and three female collaborators) were collected data and they gave the necessary instructions to complete the questionnaire.

(version 15.0). We carried out a descriptive statistical analysis through a contingency analysis based on gender, excluding odd cases. We also created a multivariate analysis through a cluster analysis whose purpose was to divide the total number of items into groups (clusters), so that the items' profile in a group are very similar among them (creating an internal cohesion), whereas the items' profile of different clusters are obviously different (creating an external isolation from the group).

We used the Cronbach's alpha as a coefficient of reliability of the result. The value of alpha was .703, which means an acceptable internal consistency for the elaborated questionnaire. Statistical validity was assessed by a statistical specialist at the University of Seville as a coherent study and applicable in the context of PE. Two renowned experts in the field of higher education (a PE professor and a psychology professor) analyzed the questionnaire. Finally, validation at school took place in a pilot study with a representative sample of the study population (

The main researcher monitored the survey in all the six schools.

### RESULTS

The results of the statistic analysis of the pupils' answers regarding their motivation towards different PE contents are shown in Table 2 and 3. Table 2 shows the results obtained through the dichotomous scale, while Table 3 shows the results obtained by means of a Likert scale.



Table 2. Descriptive analysis of motivational items (dichotomic).

Items	Boys (n = 251)						Girls (n = 179)					
	Yes		No		N/A		Yes		No		N/A	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
1. I practice PA for health.	80.2	1.17	19	1.56	0.9	0.10	82.9	2.45	14.6	0.13	2.4	0.86
2. I practice PA to improve my physical appearance.	73.3	0.84	25	0.87	1.7	1.03	64.6	0.89	34.1	2.33	1.2	1.11
3. I practice PA to socialize with others.	47.4	1.20	50.9	0.75	1.7	1.0	42.7	0.45	54.9	1.98	2.4	2.45
4. I practice PA to lose weight.	39.7	1.07	56.9	1.34	3.4	0.67	48.8	1.43	47.6	0.56	3.7	0.94
5. I practice PA to get away from tobacco, alcohol or other drugs.	37.9	0.65	60.3	2.11	1.7	0.34	23.2	0.65	76.8	0.65	0.0	0.0
6. I realize the activities in PE classes in order not to fail.	37.1	0.67	60.3	1.55	2.6	1.29	26.8	1.12	70.7	1.46	2.4	1.34
7. My PE teacher encourages me to participate in PE classes.	78.4	2.10	15.5	1.65	6.0	1.23	79.3	1.11	14.6	1.02	6.1	1.99

Note: M = means of the answer of the students to the items; N/A= no answer.

The results show a high degree of motivation in relation to Item 1, which describes pupils' motivation to improve their health through sport activities carried out in the practical PE lessons. However, females seem to be more inclined than males to use PA to achieve health.

Concerning improvement of the physical image, physical changes and the search for a new physical image, which are typical of adolescence, these are important motivational elements. In this regard (Item 2), males show a higher tendency than females towards this goal.

Item 3 is related to the practice of PA for improving social relationships with peers, and seeks to establish the degree of motivation of our pupils towards this aspect of PA. Approximately, a 5% more of males seek social relationships through the practice of PA. However, in regards to Item 4, approximately 10% more of females seem to use PA in order to lose weight.

Item 5 shows pupils' motivation towards using PA to create healthy habits and as an alternative for passive leisure. In this regard, Table 2 shows that males use sport to stay away from tobacco, alcohol and other drugs more than females do.

In regards to the performance of PA proposed in the class environment so as to pass the subject of PE (Item 6), approximately 10% more of males show an inclination towards this target.

The role of teachers is a very important external factor regarding pupils' motivation towards the subject of PE. We established Item 7 in order to know the influence of this factor. The analysis of the data obtained through this item shows that a high percentage of pupils believe that their teacher encourages them to participate in PE lessons. Table 3 shows the data obtained by means of a Likert scale.





Table 3. Descriptive analysis of motivational items (Likert)

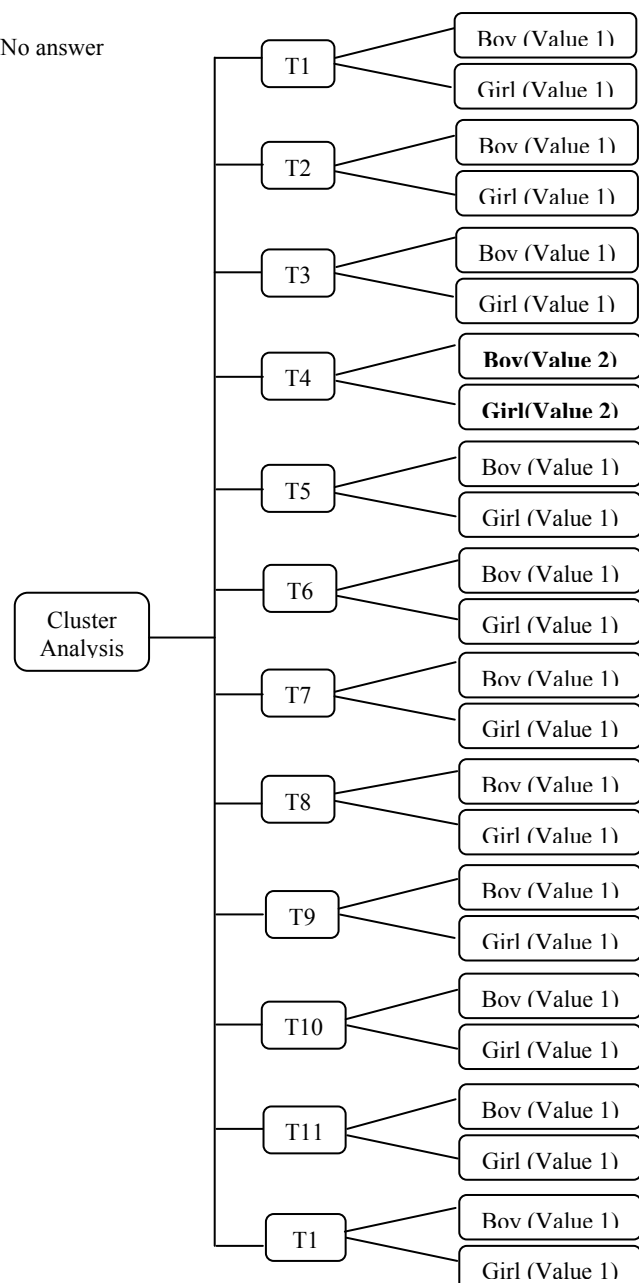
Items	Boys (n = 251)												Girls (n = 179)											
	N/A		None		Few		Normal		Quite		A lot		N/A		None		Few		Normal		Quite		A lot	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
8. Your interest in PA in general is ...	0.0	0.0	0.9	0.6	6.0	1.53	19.8	1.85	31.0	0.5	42.2	1.34	1.2	0.02	0.0	0.0	4.9	1.17	22	1.19	35.4	0.33	36.6	1.26
9. Your interest in PE in general is ...	0.0	0.0	2.6	1.47	8.6	2.45	22.4	1.22	45.7	0.56	20.7	0.66	1.2	0.23	3.7	1.29	15.9	1.33	14.6	1.06	41.5	0.63	23.2	1.25
10. PE classes are useful for everyday life	0.9	0.69	8.6	0.25	4.3	1.41	22.4	0.36	31.9	0.25	31.9	1.15	0.0	0.0	9.8	1.71	9.8	0.25	23.2	0.36	24.4	1.99	32.9	2.10

Note: M = means of the answer of the students to the items; N/A = No answer

In relation to the question about the general interest in PA, the data obtained through Item 8 reflects that males show *a lot* more interest (5.6% higher than that shown by females). When specifying Item 8 and asking pupils about their interest in the subject of PE (Item 9), the data shows an inverse relationship. Females show more interest in the degree *a lot*, which makes a difference of 2.5% over males.

Item 10 shows the relationship between pupils' interest in PE and their perception of PE as beneficial for their daily life. Table 3 shows that females believe that PE is a great benefit in their daily life (*a lot*) more than males do.

Lastly, we carried out a discriminatory analysis through cluster in order to obtain homogeneous groups to link up the answers of the pupils in regards to motivation and teachers. The combination of these two factors resulted in twelve different groups. After carrying out an exhaustive analysis to determine the appropriate number of clusters needed, we decided to select two clusters for this research. Furthermore, we decided to maintain this number of clusters through the analysis of different questions. Figure 1 shows the clusters to which each group belongs. As we can observe, pupils of teacher 4 have a different opinion than the other eleven teachers' pupils concerning some aspects.





The reliability of this data is established by a canonical correlation of .978. As we can see, it is highly explanatory and, therefore, our data are reliable. Through the Wilks' Lambda = .044 we established a high significance,  $\chi^2(1, N = 430) = 17.2, p = .000$ , which leads us to reject the null hypothesis and continue the discriminatory analysis. The question that has been in the analysis of this block after applying the stepwise method with F with pair distances,  $F(131.04)$ , was: *Your teacher encourages you to participate in PE classes*. Table 4 shows the results indicating the position of the centroids of the clusters that mean the results of the explanatory functions.

Table 4. Functions at group centroids.

Average Linkage (Between Groups)	Function
	1
1	-2,337
2	7,010

Note: Unstandardized canonical discriminant functions in the group means

Because the centroid of the cluster 2 is positive and high, we can infer that the pupils belonging to cluster 2 believe that their teacher encourages them to participate in the PE class in a higher degree than the rest of the teachers do.

## DISCUSSION

We have applied the AGT in order to interpret cognitive, emotional and behavioural patterns as motivational elements for the performance of the so-called achievement tasks by pupils during their PE practical lessons. Following Standage & Treasure (2002), and Ebbeck, Gibbons & Loken-Dahale (1995), the AGT allows us to consider health, passing the subject (avoidance of punishment), body image (self-image), social relationships and healthy life habits as the main sources of pupil motivation.

According to this theory, and as shown in Chalabaev, Sarrazin, Stone, & Cury (2008), Escartí & Brustad (2001), or Moreno, González, & Cervelló (2008), pupils show motivation towards activities whose goal is to demonstrate competence, and thus to be considered as *successful* in different aspects. Some of these aspects are health, physical appearance and social relationship, which, in the specific context of higher education, are considered as positive in

relation to practising PA within the practical lessons of PE.

In this regard, according to a distinction based on gender, females focus their achievement goals on health and losing weight (Porras, 2007). Males display behaviours oriented towards passing the subject, improving their physical appearance, build relationships with peers or as an alternative to tobacco, alcohol and other drugs. This data is consistent with the research of Garcés de los Fayos (1995). However, we need to point out that this data does not quite agree with the researches of Salinas (1994) and Spink (1995), who stated that women undertake PA due to social reasons to a larger extent than men do.

Regarding Social Motivational Climate, the main motivational factor in achievement environments both for males and females is determined by *significant others*, as shown by authors such as Parish & Treasure (2003). According to this author, the high school teachers of this research are a motivational factor in the acquisition of certain behaviours from both male and female pupils towards the subject of PE, as observed in the results of this research, which agree with the proposals of Moreno & Hellín (2004) and which are not relevant in regards to the gender of the pupils.

In regards to the Contextual Motivational Climate, we agree with Cervelló (1999) on the importance of the structure of the lesson to motivate pupils. In this sense, almost all of the sessions analysed in the High Schools show an ego-oriented contextual configuration. In this way, the main motivation for pupils – especially for males – is to perform the task in order to pass the subject. We have also noted obtaining social acknowledgement as another contextual motivational factor; this data agrees with the researches of Escartí & Brustad (2001), Gonzalez-Cutre, Sicilia, & Águila (2011) and Standage & Treasure (2002).

Taking into account the researches of Arruza (2008) in regards to the relationship between educational context and PA, and the interactional perspective proposed by Cruz (1997) from sports psychology, we can link up the motivation of pupils towards certain behaviours due to the interaction of different parameters, such as the pupils' goals and the external





backing of those goals. Pupils determine the degree of persistence, intensity and frequency of a specific behaviour through those goals, as stated by Cervelló (1999) and Almagro, Sáenz-López, & Moreno (2010). This persistence, intensity and frequency must be supported by an orientation to the task within the sessions of PE lessons.

As we observed in the classroom, the range of activities offered in PE does not match the motivational factors associated with the goals of each gender. This aspect stands for unequal opportunities and female discrimination, as some authors have emphasized Blández, Fernández, & Sierra (2007), Edwards & Striff (2008) or Huggan (2008). In this regard, Moreno, Vera, & Cervelló (2009) allude to positive and significant relationships between the task-oriented motivational climate and the perception of equal opportunities for the pupils. The orientation to the task is an intrinsic motivational factor that allows increasing motivation and the practice of PA in girls, while, at the same time, to reduce the rate of the girls' drop-out in PA (Cecchini et al., 2008; Cervelló, Escartí, & Guzmán, 2007; García-Mas et al., 2010; Gutiérrez, Ruiz, & López, 2010; Isiksal, 2010). As Bortoli et al. (2011), Moreno, Sicilia, Martínez, & Alonso (2008) and Van de Pol & Kavussanu (2011) stated, we advocate the need for influencing both genders by focusing on the contextual configuration of practical PE lessons towards the task, creating thus environments which promote gender equality, the learning process, participation, cooperation, tolerance and mastering of the task.

## CONCLUSIONS

Accordingly, the data of our research shows a certain profile in the context of the high schools of this study that shows a clear motivational difference based on gender. We also need to provide our female pupils with more motivation, which will allow us to increase and define in a better way their participation and persistence in PE lessons. We identified this need as a result of the data which show that, in relation to the content of the subject of PE, male pupils of the high schools show more interest than female pupils towards the subject, and their motivation is based on improving their physical appearance, forging social relationships, passing the subject and as an

alternative for tobacco, alcohol and other drugs. Female pupils' motivation for practising PA is based on health reasons and on the possibility of losing weight. We believe that the range of activities offered in PE lessons does not, in most cases, match the motivational factors of female pupils, which implies unequal opportunities and discrimination.

Therefore, and as supported by the AGT, we need to focus the contents of PE practical lessons towards the task, if we want that both male and female pupils show the same attitude towards PE lessons, and if we want the subject to be taught in a more gender-equal way. In this manner, supported by a positive attitude from teachers towards female pupils' participation, both male and female pupils will feel more motivated because they will understand their success in different activities as a result of effort and learning, and not due to their physical capabilities and qualities – as it has been determined so far by the contents based on a biological traditional point of view. Taking into account all the above, the AGT is a coherent tool to understand the pupils' motivation towards a gender-equal PE.

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