

DO BOYS AND GIRLS SHARE THE SAME CHARACTERISTICS WHEN THEY ARE EQUALLY CLASSIFIED AS ACTIVE OR INACTIVE?**Adilson Marques¹, João Martins^{1,2}, Miguel Peralta¹, Francisco Carreiro da Costa^{1,2} and Maurice Piéron³****Universidade de Lisboa¹, Portugal, Universidade Lusófona de Humanidades e Tecnologias², Portugal and University of Liège, Belgium³**

ABSTRACT: Participation in regular physical activity in young ages is associated with health benefits. Understanding the correlated factors of physical activity is essential for the development and improvement of public health intervention. The aim of this study was to compare boys and girls when they are classified as active or inactive. A survey was conducted with 2580 adolescents (mean age 13.2 ± 2.4 , boys $n = 1310$, girls $n = 1270$). Subjects completed measures of physical activity, perception of competence and health, dispositional achievement goals, attitudes, and perception of parents' physical activity. Several cluster analysis by variables were performed. The resemblance of genders when they are equally classified as active or inactive was remarkable, suggesting that the correlation of participation in physical activity is generally similar for boys and girls, mainly at the ages of 10-12 years. Family, peers, and physical self-perception are important factors that contribute to youth participation in physical activity in both genders.

KEYWORDS: Physically active, characteristics, gender differences, youth.

¿LOS NIÑOS Y LAS NIÑAS TIENEN LAS MISMAS CARACTERÍSTICAS CUANDO ESTÁN IGUALMENTE CLASIFICADOS COMO ACTIVOS O INACTIVOS?

RESUMEN: La participación en la actividad física regular se asocia con beneficios por la salud. Identificar los factores correlacionados de la actividad física es esencial para el desarrollo y la mejora de la intervención de salud pública. El objetivo del estudio fue comparar los niños y niñas cuando se clasifican como activo o inactivo. Se realizó un cuestionario con 2580 adolescentes (media de edad 13.2 ± 2.4 , niños $n = 1310$, niñas $n = 1270$). Los niños e niñas completaron un cuestionario de la actividad física, percepción de competencia e salud, orientación para los objetivos e percepciones de sus padres sobre la actividad física. Se realizaron varios análisis de conglomerados por variables. El parecido de los sexos cuando son igualmente clasificados como activos o inactivos fue notable, lo que sugiere que la correlación de la participación en la actividad física es generalmente similar para niños y niñas, sobre todo en las edades de 10-12 años. Familia, los compañeros y la autopercepción física son factores importantes que contribuyen a la participación de los jóvenes en la actividad física en ambos sexos.

PALABRAS CLAVE: Actividad física, características, diferencias de género, jóvenes.

TÊM OS RAPAZES E AS RAPARIGAS AS MESMAS CARACTERÍSTICAS QUANDO IGUALMENTE CLASSIFICADOS COMO ATIVOS OU INATIVOS?

RESUMO: A participação em atividade física regular nos jovens está associada a benefícios ao nível da saúde. Identificar os correlatos da atividade física é essencial para o desenvolvimento de e melhoria da intervenção na saúde pública. O objetivo do estudo foi comparar rapazes e raparigas quando igualmente classificados como ativos ou inativos. Realizou-se um questionário a 2580 adolescentes (rapazes $n = 1310$, média de idade 13.2 ± 2.4). Foram realizadas várias análises de *cluster* para as variáveis. As semelhanças encontradas em ambos sexos quando igualmente classificados como ativos ou inativos foi notável, sugerindo que os correlatos de participação em atividade física são geralmente similares para rapazes e raparigas, principalmente entre os 10 e 12 anos. Família, pares, e percepção física são fatores importantes que contribuem para a participação em atividade física nos jovens de ambos os sexos.

PALAVRAS-CHAVE: Atividade física, características, diferenças entre sexos, jovens.

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Participation in regular physical activity in young ages is associated with current and future health (Strong et al., 2005), reason for which, several strategies to increase it are being developed around the world (Heath et al., 2012). Yet, in spite of the health benefits and the interventions that have been developed, many young people do not practice enough physical activity to benefit their health (Hallal et al., 2012; Seabra et al., 2008). This highlights the importance of interventions aimed to promote physical activity and increase the levels of participation, especially among girls, because from the public health perspective physical inactivity has harmful health effects even in youth (Tremblay et al., 2010).

Understanding the correlated factors of physical activity is essential for the development and improvement of public health intervention. Previous literature reviews showed that gender is a significant correlate and determinant factor (Bauman et al., 2012; Sallis et al., 2000; Uijtdewilligen et al., 2011; Van Der Horst et al., 2007). Male sex is a consistent positive determinant of being physical active in childhood and adolescence in several countries and in subjects from different ethnic groups (Marshall et al., 2007). In a previous study aimed to analyse adolescents' physical activity trends over the years it was found that boys engage more in organized and non-organized physical activity than girls (Marques & Matos, 2014). Nonetheless, proportion of boys and girls who reported participating in physical activity school sport is similar (Marques et al., 2014), which means that in school settings boys and girls might have the same opportunities.

The differences between genders can be sociologically explained. Boys are usually more encouraged to practice physical activity, have more opportunities outside school, and reveal more positive physical activity experiences than girls (Mota & Sallis, 2002). On the other hand, girls are encouraged to engage in activities more "related" to the role society implies they will have in adult life (i.e., following the dominant stereotypes of the community) (Mota & Sallis, 2002).

Given the fact that boys and girls have different levels of participation in physical activity (Marshall et al., 2007; Seabra et al., 2008), it is important to ask whether active and inactive boys and girls have similarities in psychological and social correlates of physical activity. The study of the psychological and social correlates (such as physical self-perception, perception of health, perception of physical appearance, attitudes towards physical activity, attitudes towards physical education, reasons for not practicing physical activity, parents and peers physical activity participation) is important because they are potentially changeable factors. The identification of these factors helps to identify children and adolescents at risk of becoming sedentary and changes in these factors is a more effective way in changing behaviours (Sallis et al., 2000). This knowledge is important for public health professionals, Physical Education teachers and Physical Education Teacher Education professionals, as it allows the development of strategies to promote physical activity more appropriate for each gender.

Taking into account that all children and adolescents attend compulsory education, schools have been considered as privileged spaces for the promotion of physical activity among this ages (Lubans & Morgan, 2011). In school context, children and adolescents have the opportunity to engage in non-

organized physical activity during breaks between classes or lunch time breaks and engage in organized physical activities during physical education classes and school sports activities. Take advantage of these opportunities can contribute to increase the physical activity levels of children and adolescents (Lubans & Morgan, 2011).

The aims of this study were to analyse similarities and differences according to gender in physical activity in various contexts of participation; and to compare boys and girls when they are classified as active or inactive.

METHOD

Participants

Participants were 2580 children and adolescents (1310 boys, 1270 girls; mean age 13.2 ± 2.4 , range 10-18 years) from seven Portuguese public elementary and secondary schools. The study was conducted according to ethical standards in sport and exercise science research (Harriss & Atkinson, 2009) and the protocol received approval from both the institutional review board of the Faculty of Human Kinetics and the Portuguese Minister of Education. All head-teachers gave their consent, and informed written consent was obtained from the students and their legal guardians before the subjects entered into the study.

Instrumentation

The data was collected by a questionnaire published by Telama et al. (2002). The questionnaire had five items rated on a 4-point scale to assess physical activity: frequency of physical activity participation per week, participation in organized physical activity, participation in unorganized physical activity, intensity, and participation in competitions. These items were used in Portuguese and other European populations previously to assess physical activity with good reliability (Mota & Esculcas, 2002; Mota et al., 2008; Telama et al., 2005). To express the activity levels of the students, an index of physical activity was computed by summing these five items ranging from 5 to 20 points (Telama et al., 2005). From the physical activity index, the sample was divided into four different categories: 5-8 sedentary; 9-12 low active; 13-16 moderately active; and 17-20 vigorously active (Mota et al., 2008). Considering that recommendations stressed engagement in moderate-to-vigorous physical activity, students were categorized into two groups: less active or sedentary, and active.

Lintunen's scale was used to measure students' perceived physical competence (Lintunen, 1990). Perception of health was assessed with a selection on a 4-point scale ranging from "I am not feeling well" (= 1) to "I am very healthy" (= 4). The questions concerning students' attitudes toward school, physical education, and physical activity were respectively: "What do you think about going to school?", "What do you think about your PE lessons at school?", and "What do you think about practicing PA?", from the WHO study (Aaro et al., 1986). Answers were given on a 5-point scale ranging from, "I dislike it very much" to "I like it very much". A list of 10 motives for not participating and 16 for participating in physical activity was presented and students had to select those related to them. Subjects' perceptions about their parents' physical activity were measured using the following question for father and mother:

"Does your father/mother practice physical activity?" Answers could be: "Never", "From time to time", "Only during holidays" "Every week", and "I don't know". Perception of friends' physical activity practice during the week was asked, and answers were given on a 5-point scale ranging from "never" (= 1) to "daily" (= 5). The practice of physical activity with friends was assessed with one single question rated on a 5-point scale ranging from "never" (= 1) to "daily" (= 5). Finally, it was asked who or what influenced them to be involved in physical activity. Answers could be parents, teachers, friends, boy/girlfriend, medical recommendation, and advertisements.

The questionnaire was administered at the beginning of the physical education session with the collaboration of the teacher of the class. The investigator made clear to the students that there were no right or wrong answers, and that the best answer was the one that corresponded to their views and to their perceptions.

Data analysis

The chi-square was used to assess whether the classification of physical activity in its dichotomous form depended on gender, and to evaluate the differences between genders in various contexts of participation. In order to compare the

characteristics of active and less active boys and girls several cluster analyses by variables were performed. The analyses were made for three age-groups 10-12 years, 13-15 years, and 16-18 years. The age-groups were created based on development changes in childhood and adolescents (Kail, 2006). Four clusters were identified for each age group: 1) active boys, 2) active girls, 3) less active or sedentary boys, and 4) less active or sedentary girls. The statistical analyses were made with PASW 18.0 (Predictive Analytics Software) and SPAD 3.5 (Système Portable pour l'Analyse des Données), with a level of significance of $p < .05$ and $p < .01$, respectively.

RESULTS

Almost 72% of boys and 87.9% of girls were considered less active or sedentary (table 1). A significant relationship of dependency between the classification of physical activity and gender was found ($\chi^2(1) = 106.862, p < .001$). When analysing genders according to their age groups, a significant difference was observed in the 10-12 years group ($\chi^2(1) = 70.857, p < .001$), the 13-15 years group ($\chi^2(1) = 28.469, p < .001$), and 16-18 years group ($\chi^2(1) = 11.977, p = .001$). Percentages of active boys were higher than girls.

Table 1

Classification of student's physical activity index according to age and gender.

PA index	10-12 years (%)		13-15 years (%)		16-18 years (%)		General	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Less active or sedentary	69.3	89.2	69.8	84.8	79.0	90.2	71.5	87.9
Active	30.7	10.8	30.2	15.2	21.0	9.8	28.5	12.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 2 shows the frequency in participation in unorganized physical activity, organized physical activity and in school sport. The practice of unorganized physical activity was superior to organized physical activity, however, as age increases, the decrease of unorganized physical activity is more pronounced in both genders. There are significant differences in all age groups for unorganized physical activity - 10-12 years ($\chi^2(3) = 36.871, p < .001$), 13-15 years ($\chi^2(3) = 48.696, p < .001$) and 16-18 years ($\chi^2(3) = 26.586, p < .001$). The same was observed for organized physical activity at different age groups - 10-12 years ($\chi^2(3) = 72.457, p < .001$), 13-15 years ($\chi^2(3) = 49.316, p < .001$) and 16-18 years ($\chi^2(3) = 19.633, p < .001$).

Among boys the participation in school sports has remained stable in the age-groups of 10-12 years and 13-15 years, diminishing thereafter. For the girls, there was a significant increase in 13-15 years, diminishing thereafter. Comparing genders, there were significant differences in the younger students ($\chi^2(1) = 4.985, p = .026$) and 13-15 years group ($\chi^2(1) = 4.535, p = .033$). For the older students no differences were found ($\chi^2(1) = .160, p = .689$), with the boys presenting a lower value of participation.

With respect to the characterization of inactive and active students of both genders, in different age groups, the results from the cluster analysis by variables show that homologous groups of different genders are very similar (Table 3 to 8).

As it can be seen in table 3, less active or sedentary boys and girls do not participate in school sports. The levels of perceived competence were low in both genders and they show an indifferent yet positive attitude toward physical activity. An important aspect to consider is that for boys there were similarities between the children's behaviour and their parents, since the parents' inactivity had come up in cluster characterization. This suggests that for boys the practice of physical activity by their parents is important. Lack of time was the motive reported by both gender for not take part in physical activities. Surprisingly, they showed concomitantly an indifferent and a positive attitude toward physical activity.

Results of the clusters of the active boys and girls age 10-12 years are presented in table 3. Participating in school sports it is a characteristic of both clusters. Girls differ from boys in their practice of physical activity (gymnastics, and swimming), however, the practicing of football appeared in boys and girls cluster. These groups of children had a positive attitude towards physical education and physical activity, feeling very physically competent as well. It is worth noting that both genders have indicated the practice of physical activity often with friends. For the girls, the practice of physical activity by the mother also characterized the cluster.

Table 2
Practice of physical activity according to age and gender.

Variables	Modality	10-12 years (%)		13-15 years (%)		16-18 years (%)	
		Boys	Girls	Boys	Girls	Boys	Girls
Unorganized physical activity	Once a week or less	14.1	24.2	14.1	23.5	22.1	25.8
	2 to 3 times a week	32.4	32.1	25.0	29.3	37.5	18.9
	4 to 6 times a week	14.4	8.8	15.7	5.5	4.9	3.7
	Every day	22.8	14.5	23.3	13.4	7.5	5.3
	NA	1.5	0.8	1.5	0.9	0.4	0.8
Organized physical activity	Once or less times a week	49.7	73.4	55.0	74.9	62.2	76.7
	2 to 3 times a week	37.0	18.9	26.7	19.8	22.1	18.0
	4 to 6 times a week	7.0	3.2	10.7	2.8	10.1	4.1
	Every day	4.6	2.7	6.6	1.8	4.5	0.4
	NA	1.5	1.9	1.3	0.7	1.1	0.8
Practice in school sports	Yes	18.2	13.3	18.5	24.2	13.5	14.8
	No	79.6	83.8	80.9	74.7	85.0	84.0
	NA	2.2	2.9	0.7	1.2	1.5	1.2

Table 3
Characterization of boys and girls aged 10-12 years.

Variables		Modalities	p	
Less active or sedentary	Boys (n=355)	Participate in school sports	No	.000
		I don't have time to practice PA	Yes	.000
		Father practices PA	Never	.000
		When with friends I practice PA	Never	.000
		Attitude towards PA	Indifferent	.000
	Girls (n=446)	Attitude towards PA	Like very much	.000
		Physical Self-Perception	Good health	.001
		Mother practices PA	Average	.002
		Participate in school sports	No	.000
		I don't have time to practice PA	Yes	.000
Active or very active.	Boys (n=228)	When with friends I practice PA	Sometimes	.000
		Attitude towards PA	Indifferent	.002
		Attitude towards PA	Like very much	.005
		Physical Self-Perception	Average	.007
		Your friends practice PA	Sometimes	.009
	Girls (n=146)	Participate in school sports	Yes	.000
		Attitude towards PA	Like very much	.000
		PA practiced - organized	Football	.000
		School sport activity	Football	.000
		Physical Self-Perception	Extremely positive	.000
Less active or sedentary	Boys (n=355)	Attitude towards PE	Like very much	.000
		Perception of health	Very good health	.001
		When with friends I practice PA	Often	.001
		Attitude towards PA	Like very much	.000
		Physical Self-Perception	Extremely positive	.000
	Girls (n=146)	Participate in school sports	Yes	.000
		Attitude towards PE	Like very much	.000
		When with friends I practice PA	Often	.000
		School sport activity	Football	.000
		PA practiced - organized	Gymnastic	.000
Active or very active.	Girls (n=146)	PA practiced - organized	Football	.001
		Mother practices PA	Every week	.005
		PA practiced - organized	Swimming	.009

The clusters of the less active boys and girls aged 13-15 years are presented in table 4. These clusters are characterized by not participating in school sports. Perceptions of athletic qualities are below the average for both genders. Despite being considered less active or sedentary, boys showed a positive

attitude towards physical activity, unlike girls. In both genders the practice of physical activity with friends is sporadic or never happens.

School sport seems to be important for both genders, showing its practice on the characterization of classes (table 4).

Playing football is common to both groups. However, in the girls' cluster, volleyball also appears as a sport practiced. These adolescents have shown positive attitudes towards physical activity. Not common to both clusters is the attitude towards physical education. Girls indicated that they liked it very much, and for the boys the variable does not characterize the cluster.

Girls are also characterized by practicing physical activity without feeling any influence. The importance of peers is visible, since boys and girls claimed to have the perception that their friends practiced physical activity daily, and that when they were together they often practiced PA.

Table 4
Characterization of boys and girls aged 13-15 year.

	Variables	Modalities	p		
Less active or sedentary	Boys (n=272)	Participate in school sports	No	.000	
		I don't have time to practice PA	Yes	.000	
		When with friends I practice PA	Sometimes	.000	
		Your friends practice PA	Sometimes	.000	
		Physical Self-Perception	Below the average	.000	
	Girls (n=335)	Attitude towards PA	Like very much	.000	
		When with friends I practice PA	Never	.001	
		Perception of health	Good health	.003	
		Participate in school sports	No	.000	
		I don't have time to practice PA	Yes	.000	
Active or very active.	Boys (n=188)	When with friends I practice PA	Sometimes	.000	
		Attitude towards PA	Indifferent	.000	
		Your friends practice PA	Sometimes	.000	
		When with friends I practice PA	Never	.005	
		Physical Self-Perception	Below the average	.006	
	Girls (n=99)	Attitude towards PE	Don't like very much	.006	
		Boys (n=188)	PA practiced - organized	Football	.000
			Participate in school sports	Yes	.000
			Attitude towards PA	Like very much	.000
			Physical Self-Perception	Extremely positive	.000
School sport activity			Football	.000	
Girls (n=99)		Perception of health	Very good health	.000	
		PA practiced - unorganized	Football	.000	
		Your friends practice PA	Daily	.000	
		When with friends I practice PA	Often	.001	
	Participate in school sports	Yes	.000		
Girls (n=99)	Attitude towards PA	Like very much	.000		
	School sport activity	Football	.000		
	When with friends I practice PA	Often	.000		
	School sport activity	Volleyball	.000		
	Attitude towards PE	Like very much	.000		
	Physical Self-Perception	Extremely positive	.000		
	Who influenced you to practice PA	Never felt influence	.000		
	PA practiced - unorganized	Football	.001		
	PA practiced - organized	Swimming	.004		
	PA practiced - organized	Gymnastic	.005		
Your friends practice PA	Daily	.009			

For the older age youth all variables characterizing the girls' cluster are common to boys' cluster (table 5). They do not participate in school sport activities, and did not have time to practice physical activity. Their inactivity is related with their parents' inactivity, because boys said that their fathers and girls said that their mothers never practice physical activity. Boys, independent of their lifestyle, considered themselves healthy.

Table 5 presents the clusters of the most active boys and girls aged 16-18 years. Both clusters are characterized by adolescents having a positive attitude toward physical activity, and by the participation in school sports. In spite of these similarities, boys were characterized by practicing basketball and football, and the girls for dancing and playing volleyball in school sports. A high level of perception of competence

characterized the boys. The differences between the two clusters were related with sport activities boys and girls mentioned to practice.

DISCUSSION

The purposes of this study were to analyse similarities and differences according to gender in physical activity in various contexts of participation; and to compare boys and girls when they are classified as active or inactive.

Significant observed differences in the practice of organized and unorganized physical activity among boys and girls were expected. These are consistent with findings that gender is related with participation, and that boys have higher levels of participation, regardless of the age (Sallis et al., 2000; Uijtewilligen et al., 2011; Van Der Horst et al., 2007).

Table 5
 Characterization of boys and girls aged 16-18 years considered less active or sedentary.

		Variables	Modalities	p		
Less active or sedentary	Boys (n=206)	I don't have time to practice PA	Yes	.000		
		Mother practices PA	Never	.001		
		Father practices PA	Never	.002		
		Participate in school sports	No	.002		
		Perception of health	Good health	.008		
	Girls (n=216)	I don't have time to practice PA	Yes	.000		
		Participate in school sports	No	.000		
		Mother practices PA	Never	.008		
		Active or very active	Boys (n=61)	Perception of health	Very good health	.000
				PA practiced - organized	Basketball	.000
Physical Self-Perception	Extremely positive			.000		
Attitude towards PA	Like very much			.000		
PA practiced - unorganized	Football			.000		
Girls (n=28)	Participate in school sports		Yes	.001		
	School sport activity		Football	.005		
	PA practiced - organized		Football	.005		
	Participate in school sports		Yes	.000		
	School sport activity		Volleyball	.000		
Girls (n=28)	Attitude towards PA	Like very much	.000			
	PA practiced - organized	Dancing	.000			

Boys and girls from the three age-groups reported participating more in unorganized than in organized physical activity. The advantage of unorganized activities is that young people can do it whenever they want, during their leisure-time. However, organized physical activity is a better predictor of adult physical activity (Telama et al., 2006). Children and adolescents should be encouraged to attend after school sports programs to be physical active and to maintenance the physical activity participation. This is particularly true for the girls since their levels of participation in organized activities were significantly lower than the boys. The values observed for the unorganized physical activity in the present study differ from the ones presented by Esculcas and Mota (2005). The differences might be related with environment correlates that were not analysed in the present study, such as the community design, parks, recreation facilities near home or aesthetics and pleasantness of the neighbourhood, since the sample of the two studies are from different locations.

Regarding participation in school sport for the majority of the sample, prior to the analysis by age groups, no significant differences were observed. This can be explained by the approach schools take when choosing sporting activities, with the possibility that selection is based on the gender for whom the activities are intended. With the exception of younger students, girls' participation was higher than boys yet there was no pattern with the increase of age. This suggests that schools could play a crucial role in minimizing the differences between the genders with regard to participation in physical activity, and the trend of declining. The fact that the practice of football has appeared in the characterization of students from both genders under the school sports suggests that gender differences can be resolved through school intervention (e.g., through the creation of female football teams, given that results seem to show that when given the opportunity girls participate as boys do). Previously Marques et al. (2008) have found that actions taken by the schools may play an important role for the involvement of young people in physical activities.

Looking to the cluster analysis results, despite the fact that boys were more active than girls in organized and unorganized physical activity, the resemblance of genders when they are equally classified as active or inactive was remarkable, suggesting that the correlation of participation in physical activity is generally similar for boys and girls, mainly at the ages of 10-12 years. The factors that were associated with the clusters were in line with the correlates reviews (Sallis et al., 2000; Van Der Horst et al., 2007).

Boys and girls at ages of 10-12 and 13-15 have the same physical self-perception. The actives self-perceived themselves as being physical competent, and conversely, the less active self-perceived as having the same abilities of their peers or being less skilled. This is in line with research with children and adolescents that found that physical self-perceptions are related to physical activity (Crocker et al., 2000). Although there is evidence that boys report higher physical self-perceptions than girls (Crocker et al., 2000; Welk & Eklund, 2005), when they are equally considered active or less active, the profile of perception is identical, which means that physical self-perception is related to physical activity behaviours for both genders. Boys and girls might base their perceptions on comparisons with peers of the same sex, so gender differences may not influence individual perceptions (Welk & Eklund, 2005).

For boys, perceived health status has emerged in the characterization of all clusters. In spite of most of them stating they felt in good health, the more physically active had more positive perceptions, similar to what was found previously (Marques et al., 2009; Spink et al., 2005). The fact that perception of health was not a variable that characterized girls, regardless of age and physical activity participation, seems to mean that it is not a correlated factor for them.

Attitudes toward physical activity and physical education had partial similarities between genders. The youngest boys and girls from the four clusters had the same attitudes. Most of the active children reported that they liked physical activity and physical education very much. Students who show favourable

feelings toward physical education and physical activity have more motivation to participate in classes and outside school sports (Silverman & Subramanian, 1999). Generally, the characteristics of the clusters suggest the relationship between the attitudes and behaviours, however, the profile of boys and girls are not similar. Girls' attitude toward physical education at age of 13-15 was related with their physical activity behaviour, unlike boys. Physical education looks like an important factor for girls' participation in physical activity. So, the lower interest in physical education that girls show after the age of 14 is a reason for concern and should be addressed to prevent it from occurring (Van Wersch et al., 1992).

Parents' inactivity was associated with the cluster of less active boys in the 10 to 12 years cohort, and the practice of physical activity by the mother was associated with the practice of the active girls at the same age. For the clusters of adolescents (13-15 and 16-18 years), parental physical activity did not characterized the most actives boys and girls. It was interesting to see that mother inactivity characterized the inactive boys and girls aged 16-18 years. Reviews of literature have been shown that data of parental activity are inconclusive or not reported (Bauman et al., 2012; Sallis et al., 2000; Uijtdeuwilgen et al., 2011; Van Der Horst et al., 2007). Although parents have an important role in their children socialization, it seems that their importance in physical activity domain is more related with encouraging, motivating, and supporting than being a role model (Bauman et al., 2012; Davison & Jago, 2009).

By verifying that most active boys and girls aged 10-12 and 13-15 years practiced physical activity regularly with friends, and that the less actives rarely did it, it suggests that peers are important at early stage (Keating et al., 2005; Sallis et al., 2002). This finding highlights the profile of the relationship of peers in the practice of PA at these ages in both genders. For the clusters of older boys and girls (16-18 years), the variable related with friends physical activity was not present in neither clusters, which emphasized that active or inactive behaviours are not related with peers. The same was observed for the parents variable. Since adolescents get older, they become more independent to make their own choices, and require less logistical support from parents (Davison & Jago, 2009).

The more visible differences among boys and girls were the sport activities they were involved in. Boys had preference for football and basketball, and girls preferred volleyball, swimming, gymnastics and dancing. However, in the children age (10-12 years), these differences were not present and boys and girls were characterized by the same sport activity.

In this study boys and girls with the same age and the same levels of physical activity practiced were compared, instead of general comparisons. The identification of the characteristics of active and inactive boys and girls, from different year's cohort, allows for the creation of profiles, which helps to better understand the psychosocial factors related with their physical activity. This finding provides new information that can facilitate the development of interventions tailored to the needs of boys and girls across their age. The study does, however, have some limitations that should be mentioned. First, physical activity was assessed through questionnaires. Although the questions have previously been demonstrated to be both reliable and valid, they could be subject to bias. Second, the characterization of

the environment correlates could be important to explain similarities or differences on gender's profile. Third, the data is not representative on a national level, and the sample, although randomly selected, was only from Lisbon's metropolitan area.

In summary, boys and girls when equally classified as active or less active share mostly the same characteristics, and results emphasized that active children and adolescents, were generally opposite of the less active ones. The results also reveal that family, peers, and physical self-perception are important factors that contribute to youth participation in physical activity in both genders. The most visible differences between genders were the sport activities they were involved in, but the differences only appear since the age of 13-15 years.

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