Sex Roles (2012) 67:389–402
DOI 10.1007/s11199-012-0174-y

ORIGINAL ARTICLE

Gender Differences in Physical Education Textbooks in Spain: A Content Analysis of Photographs

María Inés Táboas-Pais · Ana Rey-Cao

Published online: 1 June 2012

Abstract The aim of this paper is to show how gender differences are portrayed in images featured in Physical Education textbooks for secondary schools in Spain published between 2000 and 2006. The sample was composed of 2,724 images published in 36 textbooks by 10 Spanish publishing houses. A content analysis was carried out through the elaboration of an ad hoc coding scheme. The development of the coding scheme followed: two trial tests, two consultations with experts, and triangulation with three observers. The variables of the study were: gender, type of physical activity, field of practice, space and level. The findings showed a noticeable imbalance between male and female representation in which the male model is clearly predominant. In addition, these images portray males and females in stereotypical roles and depict certain activities or sports as more appropriate for one gender or the other. These findings further highlight the need to increase awareness regarding the image content in textbooks and the necessity to work in order to overcome traditional gender stereotypes connected with physical education and sport.

M. I. Táboas-Pais
Department of Physical Activity and Sport Sciences,
San Antonio Catholic University,
Guadalupe Murcia, Spain

A. Rey-Cao
Department of Special Didactics, University of Vigo,
Pontevedra, Spain

M. I. Táboas-Pais (✉)
Faculty of Physical Activity and Sport Sciences,
Campus Los Jerónimos, s/n,
30107 Guadalupe, Murcia, Spain
e-mail: mtaboas@ucam.edu
e-mail: inestaboas@uvigo.es

Keywords Gender stereotypes · Images · Physical education · Textbooks · Content analysis

Introduction

The present work is a critical examination of the vision of gender and physical activity presented to our schoolchildren through the images portrayed in physical education textbooks in Spanish Secondary Schools. A content analysis of physical education textbooks in Spain was undertaken to examine images of boys and girls and the type of activity they engaged in. The internalization of gender stereotypes in young people and adolescents is very high (Colás and Villaciervos 2007) and the messages that are received through the different media perpetuate the stigmatisation of physical activities for men and women (Alvariñas et al. 2009; Scharagrodsky et al. 2003). Studies in Spain have noted that the lack of female sporting models, the localisation of women in domestic environments and private spaces makes it more difficult for adolescent girls to become interested in physical-sporting activities (Soler 2000; Vilanova and Soler 2008).

This analysis makes a contribution to the body of research that was initiated by other authors from many countries and other studies published on *Sex Roles* (e.g., Clément-Guillotin and Fontayne 2011; Klomsten et al. 2005; Lee and Collins 2008; Low and Sherrard 1999). Clément-Guillotin and Fontayne (2011), demonstrated an association between competitive sport and masculinity in the cognitive network of French undergraduates; Klomsten et al. (2005) studied the perceptions of secondary school students in four different public schools in Norway and found that boys and girls appear to be stereotyped in sports participation, in masculine and feminine values, and also in

how they express sports appropriateness for boys and girls. The present work is aimed at determining if physical education textbooks are an element that contributes to the link between competitive sport and the model of masculinity. Research by Low and Sherrard (1999) on college-level textbooks on Human Sexuality and college-level texts on Marriage and Family published in the 1970s, 1980s and 1990s in the USA, or the more recent work of Lee and Collins (2008), on Hong Kong English Language Textbooks, have revealed changes in relation to issues of gender equity in more recently published textbooks. Lee and Collins (2008) reported greater female representation in more contemporary books although they continue to reproduce stereotyped, traditional gender roles: there was no significant change in the representation of women in social and domestic settings. Women continue to be associated with stereotyped activities and more passive roles than men. As results of work by Low and Sherrard (1999) have shown, physical education textbooks can reinforce traditional gender stereotypes.

Gender Differences and Physical Activity in Spain

During Franco's dictatorship (1939–1975) in Spain, a type of physical activity was designed for females to be practiced in small doses so as not to damage their health or their relationship with motherhood, as well as to comply with the image of grace, moderation and beauty associated to their role (Manrique et al. 2009). An ideal of the body was determined as merchandise whose value depended on its capacity for action, in the case of males, or its appearance and potential for seduction, in females (Vázquez 1987). Under Franco, women were assigned a reproductive role and beauty was associated with fertility, making it an imperative quality for women. The fundamental objective of women was to find and seduce a man. In this epoch, gymnastics and dance were seen as the physical activities that would help achieve this goal. Meanwhile, men were actively encouraged to seek and posses the most fertile and beautiful women. Men personified physical strength and conditioning; contact with nature, exercise and team sports were the basic educational tools for the task of creating healthy young males that could defend their country and improve its productive wealth. In simple terms, the role of women was to be at the service of men (Pérez-Samaniego and Santamaría-García 2007).

Those approaches justified a gender-based physical education that was strengthened by the culture of consumption of the post-industrial western society (Barbero 1998). The body was transformed into merchandise and became the object of numerous narcissistic, physical and erotic investments. One of these investments was physical exercise that could transform the body into a work station aimed at the achievement of a perfect body (Martínez 2004). The perception of a perfect body depended on the person's gender: for men, the ideal was a strong, vigorous and robust body whilst for women the objective was a delicate, fragile and light corporal appearance (Barbero 2005; Colás and Villaciervos 2007). The achievement of the ideal body is much more important to women than men (Alvariñas et al. 2009) and women are more likely to appreciate the more flattering aspects of corporal development that come with active sports participation (García Ferrando 2006a).

Recent surveys show that 31 % of Spanish women and 49 % of Spanish men actively participate in sports (García Ferrando and Llopis 2011). In the 1980s, 1990s, 2000, 2005 and 2010, the figures for women were lower (17 %, 29 %, 27 % and 30 %, respectively), but results of the 2010 survey on sport in Spain demonstrate that there are still significant differences between men and women in sports participation. This is further reflected in adventure and outdoor activities, where the figures are 9 % for women and 19 % for men. Motivation for men to take part in sport is oriented towards the traditional model; men say that they participate in sport for fun, for the social aspect, simple enjoyment and the competition. For women, on the other hand, sport is seen more as a means to better health and an improved corporal image (García Ferrando and Llopis 2011). Other factors in the imbalance in participation in sport between the genders are: the lack of time that women have (as they spend more time on domestic tasks); customs, traditions and culture; educational sexism and gender roles. It might be expected, therefore, that physical education textbooks reflect these gender differences that are present in Spanish culture and that students of physical education reproduce these differentiated, gender-based perceptions. For example, a study of Spanish boys and girls from 12 to 17 years old on their preferences for different body types, showed that the corporal models of women discus throwers and women body-builders were seen as those of men and consequently rejected by both girls and boys. The muscled body of a man was seen as synonymous with masculinity whilst images of muscular women received pejorative comments such as "butch", "mannish" or "looks like a man". In a similar way, the bodies of male ballet dancers were rejected by students as they were seen as too feminine (González et al. 2007).

These stereotyped codes extend to the different dimensions of physical activities that make up the content of physical education courses and are included in the categories of the content analysis that follows:

Kind of Physical Activity

Sport is an activity that is governed by a set of rules or customs and engaged in competitively (e.g., football, rugby, basketball, hockey, tennis, gymnastics, netball, or motor vehicle racing). Sports or sports practices means physical, competitive, regulated and institutionalised activities. It is a concept that is linked

to the origin of the modern term sport in England (Elias and Dunning 1992). Other examples of sports are track and field, judo or rowing. Activities defined as artistic activities, fitness activities, or physical activities in natural environments, are considered other kind of non sport physical activities.

Griffin (1995) outline how sport acts to maintain traditional gender roles and to power inequalities between males and females. This differentiation appears to have been scarcely studied in textbooks, but it has certainly been addressed by the media, for example, in the study by Lippe (2002), that looked at the portrayal of the image of the female body in the mass media of Denmark, Germany, Hungary, Norway and Romania, during the 1998 European Handball Championship. Males are associated with team sports such as football or rugby and other sports like boxing which reproduce values that are traditionally considered as masculine, that is, aggressiveness and physical contact. This was made clear in a study of images in Sports Illustrated for Kids in the United States (Lynn et al. 2002). Other studies on the mass media in Spain have shown that males are also associated with physical activity in natural environments and females are associated with other activities involving physical qualities like flexibility, harmony or elegance (Pérez 2000). Analysis of gendered in U.S. television coverage in the 2000 Sydney Olympics confirmed that females are associated with individual sports (mainly swimming, and track and field) and sports traditionally classified as "typically feminine" such as gymnastics (Billings and Tyler 2002). In Physical Education (PE) classes boys tend to perceive contact sports as male-related content areas and show very little motivation to learn contents like dancing, as demonstrated by Shen et al. (2003) in the case of students from 6th grade to 8th grade in a school in the metropolitan Washington-Baltimore area. Similarly, Klomsten et al. (2005) found in Norway that many secondary school students claimed that some physical activities (e.g., dance, ballet, fitness activities such as aerobic, and gymnastics) are more appropriate for girls than for boys. Research by Waddington et al. (1998), on participation and the attitudes of physical education teachers in secondary schools in England showed that on many occasions the teachers themselves tend to unconsciously lead girls and female teenagers towards expressive motor activities which comply with existing female stereotypes.

Previous research work has demonstrated that, independently of the country and even the object of study (mass media, books, student perception, attitudes of teachers etc.), there are differences in school physical activities in relation to boys and girls.

Field of Practice

The context or situation where the activity is practiced varies according to gender. Males are associated with field of practice competitive in Spanish physical education textbooks. In contrast, females are associated with non-competitive fields of practice (Parra 2002). Studies with French undergraduate students and secondary school students in Norway, point to a strict correlation between competition and masculinity (Clément-Guillotin and Fontayne 2011; Klomsten et al. 2005). Research in Spain on psychosocial factors that influence the sporting preferences of men and women have confirmed that traditionally masculine sport is associated with competitiveness, skill and achievement (Macías and Moya 2002). In this respect, Spanish studies such as the one by Ruiz et al. (2010) point to a preference by boys for competitive activities as opposed to girls, who prefer cooperative practices. The results shown by García Ferrando (2006b) on Spanish sports habits also point towards females moving away from federated and competitive sports. This trend can be seen in the photographs in textbooks (Parra 2002) as well as in the media (Hernández et al. 1993; López 2005).

Space

"Space" refers to the physical environment where the activity takes place. Although the study of the space variable has not occupied a prominent place in the content analysis of textbooks in Spain, other studies have approached this variable in children's picture books. Williams et al. (1987) not only reported that females are invisible in U.S. children's books but that they appear in indoor spaces, whereas males appear in outdoor spaces. These authors explain that "this, of course, is consistent with the traditional notion that a girl should be passive and immobile, that her place is with her mother in the home" (p.152). The connection between females and the domestic space is constant in Hong Kong Secondary English textbooks (Lee and Collins 2008) and this is also true of Argentinean physical education in school manuals and primary level texts (Scharagrodsky et al. 2003). Some studies have reported contrary results with regards to U.S. preschool books (Oskamp et al. 1996), but more recent works continue to indicate that the use of space has a strong culture-based gender load. The above cited works form a basis for the hypotheses of this research as, independently of the country where the study was undertaken, the findings were similar.

Some authors have argued that as a consequence of traditional, gender-based, uses of recreational areas, females are rarely seen playing sports in public spaces (Vilanova and Soler 2008, p.29).

Level

When referring to the variable level, an elite sport is practice aimed towards maximum performance and competitiveness

in the international sphere. More than 30 % of the Spanish high-level athletes are females. In the fall of 2011, 65.9 % of all high-level athletes in Spain were males (Spain Government. National Sport Council 2011a). Even though from Barcelona 1992 to Beijing 2008, percentage of females in the Olympics Games has been increasing (Spain Government. National Sport Council 2011b), mass media information on female sports "is conspicuous by its absence" and female achievements in sports "are not interesting" (Latorre et al. 2007, p.1). Studies that have examined mass media coverage of men and women elite athletes agree that there are differences in relation to gender. Billings and Tyler (2002) analysed U.S. Olympic telecasts in the 2000 Sydney Olympics and confirmed that men received over half of all airtime and of all mentions of athletes. Others such as Pedersen (2002), on newspaper photographs from daily newspapers based in the State of Florida and Shields et al. (2004), on North American newspapers have demonstrated the male hegemony in sport media. In a study of Italian television coverage of men's and women's sport during the 2004 Summer Olympic Games, Capranica et al. (2008) also found that women's sport was allotted significantly less airtime than men's. More recently, King (2007) looked at British national newspaper coverage of male and female athletes competing at the Olympic Games from 1948 to the 2004 Athens Games and showed that, compared with men, female athletes were underrepresented. A similar imbalance was found by Frideres et al. (2008) when comparing a leading U.S. newspaper with a leading Spanish newspaper.

Thus the ruling patriarchal system poses serious obstacles to the incorporation of girls into elite sports (Puig and Soler 2003). If females are underrepresented in powerful roles, their positions can easily be marginalized (Hargreaves 1994). The scarce presence of female sport models denies female teenagers role model images and supports associated with physical activity. Boys find in the media more social models to identify with than girls (Soler 2000). For girls, sport stars have been much more limited, and have rarely functioned as role-models (Biskup and Pfister 1999).

It is clear that, irrespective of the country, sports reporting in the media concentrates on men's sport. No published works could be found that analysed elite sport and gender differences in school textbooks. This present study aims to consider this area and to determine if, in line with the results of research on the mass media, girls and women are underrepresented in school textbooks and there is a scarcity of female sporting role models with which they can identify.

Gender Differences in Textbooks

In 1981, the United Nations Educational, Scientific and Cultural Organisation (UNESCO) set up a program to raise public awareness on sexism in textbooks and to endorse initiatives in this respect. Studies carried out in different countries reveal qualitative and quantitative gender bias in textbooks (e.g. Lee and Collins (2008) in Hong Kong Secondary English textbooks; Low and Sherrard (1999), and Sadker and Sadker (1980) in textbooks published in the United States; or Mkuchu (2004) in textbooks in Tanzania).

The imbalance in percentages, as far as the number of male and female characters in Spanish textbooks is concerned, has been observed in numerous studies for decades (Cerezal 1991; Garreta and Careaga 1987; Heras i Trias 1987; Institute of Marketing and Public Opinion (IMOP) 2000; Luengo and Blázquez 2004; Moreno 1987; Peñalver 2003).

Not only are males more visible than females but their psycho-social characterization remains established. Male characters are typically portrayed in Spanish textbooks as protagonists in more situations (Garreta and Careaga 1987), and they receive approval for their behaviour rather than for their aesthetic qualities, unlike female characters (IMOP 2000). This situation, along with the systematic omission of female representation, originates an androcentric viewpoint in textbooks where the male is taken as the supporting axis and the subordination of the female to the male is perpetuated (Cerezal 1991). The 'feminine professions' are often limited and stereotyped. Thus, females are portrayed in professions of an auxiliary status, basically centred in services and commerce (Blanco 2004; Cerezal 1991; Garreta and Careaga 1987; Heras i Trias 1987). Blanco (2004) examined the percentages of females portrayed in different professions in the Spanish textbooks, and she noted that only 6 % of females are scientists and 7 % sports females.

Many studies have examined gender stereotyping and the under-representation of females in school textbooks on different subjects but Physical Education textbooks have been scarcely researched. The situation could be explained by the fact that the use of Physical Education textbooks is very recent (Pastor 2005). In Spain the first empirical analysis of textbooks on Physical Education did not appear until the 1990s (Delgado et al. 1992; Díaz 1996, 2003). The few existing studies on the subject agree that these books depict an imbalanced picture of society, with females far less represented than males (Blanco 2004; González 2005; Ribas and Guerrero 1992), and where female's image is partial, limited and stereotyped (Parra 2002). This work seeks to make a contribution to the body of knowledge on Spanish physical education textbooks and explain the way in which textbooks depict tangible gender differences in physical education.

Other studies that examined physical education textbooks that were published in other countries have also revealed an asymmetry in the ratio of females to males. For example, Botelho and Caetano (2006) in Portugal; Hildreth (1979) in United States; Kirk et al. (1985) in

Canada; Scharagrodsky et al. (2003) in Argentine; or Browne (1990) and Sparkes (2002) in England. All these studies revealed gender bias and stereotyping presented in the educational materials.

Purpose of the Present Study

This study attempted to seek an answer to the following question: What are the gender patterns that are being conveyed by Spanish Physical Education textbooks?

This research question led to the following hypotheses: 1. Males were more frequently portrayed in textbooks than females. 2. Females were often portrayed in individual sports while, conversely, males were more frequently portrayed in team sports. 3. Females were often portrayed in artistic and fitness activities while, conversely, males were more frequently portrayed in physical activities in natural environments. 4. Males were usually represented in competitive fields of practice whereas females were often depicted in other fields of practice non-competitive. 5. Females were normally portrayed in indoor spaces while males were more often portrayed in outdoor spaces. 6. Males were more frequently represented than females in elite level sports.

Method

Sample

The sample consisted of a total of 2,724 photographs. These images were taken from 36 textbooks published by 10 Spanish publishing Houses (see Appendix). These textbooks were all the textbooks published in Spain between the years 2000 and 2006 for Physical Education, written in Spanish and directed at Obligatory Secondary Education students within the Spanish educational system.

The total of photographs published in these textbooks was of 3,316. In the total (N=3316) there were 592 discarded images, that was, for 17.85 % of the analyzed images it was not possible to identify the subjects' gender. Therefore, for the description of the variable *gender* n=2724.

Procedure and Variables

The coding scheme employed for the content analysis was based on a compilation of categories taken from López (2005). During the trial test, the compilation of categories was applied to a set of images taken from Physical Education textbooks, and the initial coding was adapted from López (2005) with additional categories added based on the literature review.

Three experts in content analysis collaborated in the consultation with experts. Two of them, Doctors in Physical Education handle the content analysis as the main technique of their research. The third expert is Doctor in Philosophy and Literature and has a BA in Library Science and Documentation. She is the author of a number of studies based on the content analysis of images; she has taught several training courses and has published on the content analysis of documents and image analysis. A questionnaire was prepared where the experts were asked their opinion about five items: adequacy of the coding scheme to study, thoroughness and mutual exclusion of the categories, clarity in the definitions' writing, and minimization of the observer's subjectivity. Data were collected through Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree) and through complementary qualitative information. All items received a rating of 4 or 5 by three experts.

Thus, the dependent variables that were coded in this study were: *kind* of physical activity, *field* of practice, *space* and *level*. The independent variable was *gender*. Images were coded for gender (condition that establishes differences between males, females, and group of males-females), kind of physical activity (name of different physical activities or sport disciplines), field (context or situation where the activity is practiced: competitive, and others non-competitive), space (physical environment where the activity is practiced: outdoors, and indoors) and level (level of dedication, seriousness and/or professionalism that established differences between elite and non elite). In relation to kind of physical activity the images were then coded based on whether or not they depicted the following physical activities: team sport, individual sport, artistic activities, fitness activities, and physical activities in natural environments. Operational definitions for all categories are presented in Table 1.

All images were digitized to facilitate the researcher's coding work.

Intercoder-Reliability

Three coders were trained on the coding system and codebook, using images from textbooks that were not in the final sample. The objective of session training was to familiarize the researchers with the pictures, the coding system, the codebook and the registering task. Training continued until agreement was reached. Once training was finished, the three coders were randomly assigned 74 images from textbooks. Thirty of them were selected by a simple random sampling through a table of random numbers, and 44 had been selected through a non-random sampling. The selection criterion was that all the indicators in the coding scheme had to be codified. Then, intercoder reliability statistics was calculated to assess agreement. Cohen's kappa resulted in high reliability: gender (mean k=.94), kind of physical activity (mean k=.90), field of practice (mean k=.86), space (mean k=.88), level (mean k=.84). Therefore, kappas reliability (>.80) was satisfactory for all categories. This

Table 1 Coding scheme

Categories/indicators	Operational definitions
1.1. Gender	
1.1.1. Males	The photograph shows one or more people whose basic characteristic is that they are male.
1.1.2. Females	The photograph shows one or more people whose basic characteristic is that they are female.
1.1.3. Group of males-females	The photograph shows two or more people of both genders: there is at least one male and one female.
2.1. Kind of physical activity	
2.1.1. Team sports	Sports played in teams, in collaboration/opposition. For example, basketball, handball, football, hockey, rugby, baseball, water polo, polo or volleyball.
2.1.2. Individual sports	Sports where participation is individual, without team mates and/or which can be played against an opponent, known as adversary. For example swimming, track and field, gymnastics, rowing bicycling, tennis, boxing, judo, golf, motorcycling, or weightlifting.
2.1.3. Artistic	Activities that use the body as the means for artistic expression. For example activities related to mime, theatre, drama, or dance.
2.1.4. Fitness activities	Activities directed towards improving strength, speed, flexibility and/or resistance. For example running, bodybuilding exercises, stretching, aerobics, steps, spinning or aquafit.
2.1.5. Physical activities in natural environments	Activities such as paragliding, bungee jumping, bicycle touring, trekking, hiking, rock climbing, surfing, or rafting.
2.1.16. Other	The photograph shows an activity that is not included in one of the previous subcategories.
2.2. Field of practice	
2.2.1. Competitive	Activities that belong to the field of institutionalised competition. The presence of referees, a playing field with the regulatory dimensions or numbers on t-shirts can indicate a competitive context.
2.2.2. Others (non-competitive)	"Others (non-competitive)" refers to those fields of practice that are clearly different from institutionalised competition. They include educational contexts (e.g. a school gym, classroom or playground), utilitarian contexts (e.g. workplaces, shops, the home and hospitals) and recreational contexts (e.g. Parks).
2.3. Space	
2.3.1. Outdoors	Activities that take place outside of a building, "in the open air". It is an area devoted specifically to carrying out physical activities. For example, football fields or outdoor racetrack. Activities that are carried out in an environment scarcely or not at all modified by man. Indicators such as trees, the sea, a river, a mountain, the woods, a brook or a waterfall. Images taken at ski resorts or campsites are included.
2.3.2. Indoors	Activities that take place within some type of building that is not meant for sports. Activities that take place inside a building. An area devoted specifically to carrying out the physical activity. For example, a sports hall or weight room.
2.4. Level	
2.4.1. Elite	People famous for the activity they carry out appear–elite sportsmen, famous dancers, actors, etc.–as well as indicators, such as the public or sponsors, who make it possible to locate the action within Olympic Games, a league, a professional championship or any other type of spectacle of general interest.
2.4.2. Non elite	People who are not famous for the activity they carry out appear and there are no indicators which make it possible to locate the action within Olympic Games, a league, a professional championship or any other spectacle of general interest.

intercoder reliability served as the content for a pilot reliability test before full coding commences; this pilot provides one last chance to change the coding scheme to maximize reliability (Neuendorf 2011).

When confident that reliability levels were adequate (based on the results of the pilot test of reliability), another representative sample was used to assess reliability for the full sample to be coded. Cohen's kappa was also calculated for the coding of the final sample of photographs. For this second intercoder reliability analyses, 273 images (10 % of the full sample) were selected by a simple random sampling through a table of random numbers. According to Lacy and Riffe (1996), the appropriate size of a sample is not less than 50 units or 10 % of the full sample, and it rarely will need to be greater than 300 units. Cohen's kappa resulted in high reliability: gender (mean k=.92), kind of physical activity (mean k=.86), field of practice (mean k=.92), space (mean k=.97), level (mean k=.88).

Results

Hypothesis 1: Prevalence of Males

The first hypothesis predicted that males were more frequently portrayed in textbooks than females. In the analyzed

texts the most frequent value was *male*. As can be seen in Table 2, the percentage of images featuring exclusively males was 49.49 % of the total sample. The percentage of photographs featuring exclusively females was 31.97 % of the total sample. Groups of males and females appeared in 18.54 % of the images. The obtained results in the univariate statistical analysis corroborate that males were more frequently portrayed in textbooks than females.

Hypothesis 2 and 3: Kind of Physical Activity According to Gender

The second and third hypotheses predicted that females were often portrayed in individual sports while, conversely, males were more frequently portrayed in team sports (hypothesis 2); and that males were often portrayed in artistic and fitness activities while, conversely, males were more frequently portrayed in physical activities in natural environments (hypothesis 3). The obtained results in the bivariate statistical analysis showed the relation between the physical activity represented in the images and the gender of the featured subjects. Pearson's chi-square (χ^2) test obtained a significance level of .000 which corroborates that the kind of physical activity represented in the pictures varied according to the gender of the individuals who practised it (X^2=461.882, df = 10, p<.000).

As can be seen in Table 3, 76 % of the images which showed team sports featured exclusively males whereas only 20 % featured females. As far as individual sports are concerned, 53.6 % of the images showed males, while 38.3 % depicted females.

The percentages in the contingency table reveal that those images which showed physical activities in natural environments or sports were linked in greater proportion to the male gender than to the female gender. In contrast, females were more frequently the protagonists in images that featured artistic activities or fitness-related activities.

Table 3 shows that the corrected normalised residuals ratified the relation between the variables. The clearest examples were pictures related to team sports featuring males: value 14.6. This remainder indicated a positive relation between being male and practising team sports. The remainders also showed positive relations between being female and practising fitness activities: value 5.1. In contrast, a high negative relation was observed between being female and practising team sports (remainder 7.1) and between being a male and performing artistic activities (remainder 9.7).

Table 2 Gender of the featured subjects

Gender	N	%
Males	1348	49.49
Females	871	31.97
Group of males and females	505	18.54

Hypothesis 4: Males in Competitive Fields

The fourth hypothesis predicted that males were usually represented in competitive fields of practice whereas females were often depicted in other fields of practice that were non-competitive. The statistical test of χ^2 for the variables *gender* and *field of practice* obtained a p-value of .000 which confirmed that the field or context where a photograph is located depends on the gender of the people represented in it (X^2=208.151, df = 2, p<.000). The statistical test χ^2 revealed that, once the significance level was fixed at 5 %, there was a statistically significant dependence between the variables *gender* and *field of practice* in all of the analyzed publishing houses. Table 4 shows that in the group of images referring to institutionalized competition, 69.3 % of the featured subjects were male and 26.9 % were female, while 3.7 % were groups of males and females together.

Normalised residuals showed a high positive relation between being male and practising physical activity in competition fields (remainder 12.3). The relation between being female and performing physical activity in competition fields was negative (remainder −2.5). The same was true for the relation between mixed group and competition field (remainder −12.6).

Hypothesis 5: Indoor/Outdoor Spaces

The fifth hypothesis predicted that females were normally portrayed in indoor spaces while males were more often portrayed in outdoor spaces. Similarly, the analysis of Pearson's chi-square (χ^2) test for the variables *gender* and *space* showed an associated value of .000, confirming that both variables were also dependent (X^2=43.937, df = 2, p<.001).

As Table 5 shows, the percentage of photographs featuring exclusively males in outdoor locations (67.6 %) was higher than that of images featuring exclusively females (52.8 %). Inversely, the percentage of pictures featuring females in indoor locations (47.2 %) was higher than that of images featuring male characters in indoor locations (32.4 %).

From the normalised residuals it can be concluded that the probability of males being photographed in outdoor locations was significantly higher than what should be expected if the variables were independent. Likewise, the probability of females being photographed in indoor locations was significantly higher than expected under an independence relation. If images featuring males were more frequent in outdoor locations, the presence of females was more important than that of males in indoor locations.

Table 3 Contingency table for the variables gender and kind of physical activity

Kind of physical activity		Gender		
		Males	Females	Group of males and females
Team sports	Count	452	119	24
	% of kind of physical activity	76.0 %	20.0 %	4.0 %
	Corrected remainders[a]	14.6	−7.1	−10.3
Individual sports	Count	379	271	57
	% of kind of physical activity	53.6 %	38.3 %	8.1 %
	Corrected remainders[a]	2.5	4.2	−8.3
Artistic activities	Count	55	96	111
	% of kind of physical activity	21.0 %	36.6 %	42.4 %
	Corrected remainders[a]	−9.7	1.7	10.4
Fitness activities	Count	122	167	97
	% of kind of physical activity	31.6 %	43.3 %	25.1 %
	Corrected remainders[a]	−7.6	5.1	3.6
Physical activities in natural environments	Count	83	42	68
	% of kind of physical activity	43.0 %	21.8 %	35.2 %
	Corrected remainders[a]	−1.9	−3.2	6.2
Others	Count	257	176	148
	% of kind of physical activity	44.2 %	30.3 %	25.5 %
	Corrected remainders[a]	.−2.9	−1.0	4.8

(X^2 =461.882, df = 10, p<.000)

[a] Corrected remainder above 1.96 (absolute value) indicates that there are more cases, if it is positive, or less, if it is negative, than there should be in that box if the values were independent

Hypothesis 6: Elite Level Sports Reserved for Males

Finally, the sixth hypothesis predicted that males were more frequently represented in elite level sports. The statistical Pearson's chi-square (χ^2) test was applied to the variables *gender* and *level*. An associated value of .000 was obtained (X^2=112.461, df = 2, p<.001). It was admitted then that there was a statistically significant relation between the level of skill involved in the activity and the gender of the individual who practices it. As can be seen in Table 6, out of the total of photographs depicting elite, 69.2 % of them feature exclusively males and only 23.9 % females.

The remainders shown in Table 6 indicated that the number of images showing males performing elite activities was higher than what would be expected if the variables were independent (remainder 10). Those images in which females performed elite activities were fewer than expected under a relation of independence (remainder 4.3).

Discussion

The Exaltation of the Masculine

The results of this research confirm that textbooks, regardless of their subject, persist in giving greater prominence to male characters than to female ones (Blanco 2004; Cerezal 1991;

Table 4 Contingency table for the variables gender and field of practice

Field of practice		Gender		
		Males	Females	Group of males and females
Competitive	Count	502	195	27
	% of field practice	69.3 %	26.9 %	3.7 %
	Corrected remainders[a]	12.3	−2.5	−12.6
Others (non-competitive)	Count	704	536	433
	% of field practice	42.1 %	32.0 %	25.9 %
	Corrected remainders[a]	−12.3	2.5	12.6

(X^2=208.151, df = 2, p<.000)

[a]Corrected remainder above 1.96 (absolute value) indicates that there are more cases, if it is positive, or less, if it is negative, than there should be in that box if the values were independent

Table 5 Contingency table for the variables gender and space

Space		Gender		
		Males	Females	Group of males and females
Outdoor	Count	807	397	305
	% of gender	67.6 %	52.8 %	64.5 %
	Corrected remainders[a]	5.2	−6.6	1.0
Indoor	Count	386	355	168
	% of gender	32.4 %	47.2 %	35.5 %
	Corrected remainders[a]	−5.2	6.6	−1.0

(X^2=43.937, df = 2, p<.001)

[a]Corrected remainder above 1.96 (absolute value) indicates that there are more cases, if it is positive, or less, if it is negative, than there should be in that box if the values were independent

Garreta and Careaga 1987; Heras i Trias 1987; IMOP 2000; Luengo and Blázquez 2004; Moreno 1987; Peñalver 2003).

The limited research carried out on Physical Education textbooks does not disagree with the aforementioned results and reveals the existence of a dominant male model (Bardisa and Parra 2005; Blanco 2004; González 2005; Parra 2002; Ribas and Guerrero 1992; Scharagrodsky et al. 2003). This fact does not comply with the Spanish regulations on education, which establish that the didactic materials must foster equality between genders.

Females' invisibility in physical activities perpetuates a males' world that makes females' motor practices conditional on it. In a pilot study with students of both genders at the University of Paris-Sud, Clément-Guillotin and Fontayne (2011) found that sport was vastly considered a masculine sphere. The values promoted by society, which have been created by and for males, are the root of the obstacles and reluctance that females have to overcome in order to participate in physical activities, particularly when that sport does not form part of the hegemonic stereotype of feminity (Puig 2001).

Limiting Female's Participation in Physical Activity

The obtained results corroborate the stereotyped viewpoints regarding the assignment of activities and occupations to male and female characters (Blanco 2004; Cerezal 1991; Garreta and Careaga 1987; Heras i Trias 1987). This research clearly shows that the images of females displayed in Physical Education textbooks are partial, limited, and stereotyped (Bardisa and Parra 2005; Botelho and Caetano 2006; Parra 2002). The perpetuation of the relationship between art, expression, dance and females was shown in this study (Penney 2001). The stereotypes which identify certain physical activities with either one gender or the other have been exposed in different countries (Hernández et al. 1993; Lynn et al. 2002). The connection of females with instrumental fitness activities such as aerobics or artistic activities, or with individual sports, such as tennis, swimming, skiing, gymnastics or track and field, and the association of males with team sports, such as football or rugby (Billings and Tyler 2002; Frideres et al. 2008) coincide with this study's results. The classification of sports into male and female is a worrying factor because reproducing gender-related stereotypes over and over again.

The distribution of characters also varied regarding physical activities performed in a natural environment. According to Pérez (2000), adventurers are most often male (e.g., 'Marlboro' man, 'Camel' man). As in other studies, in these analyzed textbooks, risky or adventure activities such as rafting, climbing or trekking were portrayed mainly by males.

The prejudiced and androcentric view which textbooks offer suggests that there exist activities which are suitable for males and others suitable for females, a message which has become a constant worry. In Spain, for example, the

Table 6 Contingency table for the variables gender and level

Level		Gender		
		Males	Females	Group of males and females
Elite	Count	351	121	35
	% of level	69.2 %	23.9 %	6.9 %
	Corrected remainders*	10.0	−4.3	−7.7
Non elite	Count	928	704	459
	% of level	44.4 %	33.7 %	22.0 %
	Corrected remainders*	−10.0	4.3	7.7

(X^2=112.461, df = 2, p<.001)

*Corrected remainder above 1.96 (absolute value) indicates that there are more cases, if it is positive, or less, if it is negative, than there should be in that box if the values were independent

Law of Integral Protection Against Gender Violence (*Ley Orgánica 1/2004, de 28 de diciembre, de Medidas de Protección Integral contra la Violencia de Género)* establishes that education authorities must make sure that the school materials eliminate sexist or discriminatory stereotypes and foster equal consideration of males and females. Although schools are coeducational, through the images that are shown to pupils it is possible to build messages which make equal opportunities for both genders more difficult.

Competitive Fields and Elite Level Sports as the Property of Males

This study's results showed that competition and elite are portrayed as typically male-related activities, while females were depicted in competitive events only as an exception. This association between competitive sport and masculinity was confirmed by Clément-Guillotin and Fontayne (2011). The works of Scraton et al. (1999) confirm male predominance in top-level competitive sports.

This fact is relevant because girls could be more likely to exclude themselves from sport activities or to find obstacles to participate in top-level sports (Pfister et al. 2002). This situation stimulates boys' preferences for competitive activities, while girls opt for cooperative practices (Ruiz et al. 2010). Females end up choosing recreational physical practices and keep away from organised and competitive sport (García Ferrando 2006b).

Male Public Space and Female Private Space

Lastly, the results of this study concur with those which have highlighted the existence of spatial boundaries between the male and the female worlds (González 2006; Puig 2001; Scharagrodsky et al. 2003). All of them claim that gender differences in socialization identify the public sphere with masculinity and the domestic sphere with femininity. Thus, open spaces are considered as fictional and risky places, suitable for males. In contrast, closed and reserved spaces are thought appropriate for females.

This way of using space can determine the kind of physical activity practised by one gender or the other (Vilanova and Soler 2008). The scarce connection observed between females and open natural spaces (rafting, climbing, trekking, etc.) and with elite sports may result, among other factors, from an idea of femininity linked to domestic and private places and away from the public sphere.

Conclusion

The images contained in Physical Education textbooks for secondary school in Spain show a clear imbalance between male and female characters, highlighting the existence of a predominant male model.

The photographs show differences in the kind of activities linked to males and females, which are consistent with the stereotypes attributed to each gender. Males were shown linked to physical activities in open natural spaces and to a variety of sport activities. Females were predominant in artistic activities, and fitness practices. In addition, images featuring sports differentiated between sports for males and sports for females. Females were fundamentally associated with individual sports such as track and field, artistic gymnastics, rhythmic gymnastics, or swimming. In contrast, males were linked to team sports.

The presence of females in competition contexts and sport elites was found to be restricted. Official elite competition sports were shown as activities reserved for males, reproducing misconceptions about both genders.

Females were circumscribed to indoor spaces (linked to domestic and private areas), while outdoor spaces (linked to the public sphere) were associated with males.

Limitations and Suggestions for Future

These findings further highlight the need to increase awareness regarding the image content in Physical Education textbooks and the necessity to work in order to overcome traditional gender stereotypes connected with Physical Education.

Whitehead and Biddle (2008) indicated the extent to which adolescent girls' physical activity participation is affected by social influences and perceived societal norms: "These problems are consolidated by the fact that, by their own admission, many girls simply cannot be bothered to take part in physical activity of any kind" (p.256).

In education, as in other spheres of life, images and text can help change the gender stereotyped roles attributed to physical activity. Images published in textbooks should foster tolerance, equality and respect.

This study only examined textbooks from the Spain and only in Spanish. It is a limitation of the study. This study is just one piece in the puzzle. This information is not universal but makes a contribution to the body of research. We must continue to increase our knowledge of the representation of gender in Physical Education textbooks that are published in other countries and languages.

Publishing houses and education authorities must become fully aware of the contents of Physical Education textbooks in order to become involved in their improvement.

Teachers must analyze the books from a critical point of view in order to be able to use them in a coherently didactic way. In this respect, the teachers' initial training should enable them to reflect and become aware of the implications that school materials can have in gender differences.

Appendix

Table 7 Textbooks analysed

Author	Year	Title	City	Publishing houses	ISBN	Photos coded
Valle, Díaz & Velázquez	2002	Educación Física, 1 ESO, 1 Ciclo	Barcelona	Almadraba	84-8308-516-X	51
Valle, Díaz & Velázquez	2002	Educación Física, 2 ESO, 1 Ciclo	Barcelona	Almadraba	84-8308-517-8	59
Valle, Díaz & Velázquez	2002	Educación Física, 3 ESO, 2 Ciclo	Barcelona	Almadraba	84-8308-395-7	56
Valle, Díaz & Velázquez	2002	Educación Física, 4 ESO, 2 Ciclo	Barcelona	Almadraba	84-8308-396-5	51
González, Villada & Vizuete	2002	Educación Física, 1 ESO, 1 Ciclo	Madrid	Anaya	84-667-0882-0	34
Vizuete, González &Villada	2003	Educación Física, 2 ESO, 1 Ciclo	Madrid	Anaya	84-667-1915-6	27
González Gallego et al.	2005	Educación Física, 3 ESO, 2 Ciclo	Madrid	Anaya	84-667-1061-2	41
Vizuete, Villada & González	2005	Educación Física, 4 ESO, 2 Ciclo	Madrid	Anaya	84-667-2050-2	41
Fernández Lorca et al.	2005	Patio 1, 1 ESO. Cuaderno	Madrid	Bruño	84-216-4613-3	47
Fernández Lorca et al.	2005	Patio 2, 2 ESO. Cuaderno	Madrid	Bruño	84-216-4614-1	50
Fernández Lorca et al.	2005	Patio 3, 3 ESO. Cuaderno	Madrid	Bruño	84-216-4615-X	48
Fernández Lorca et al.	2005	Patio 4, 4 ESO. Cuaderno	Madrid	Bruño	84-216-4616-8	50
Torrescusa & Coterón	2005	Proyecto 2.2, Educación Física, 1 ESO	Zaragoza	Edelvives	84-263-4715-0	259
Torrescusa & Coterón	2005	Proyecto 2.2, Educación Física, 2 ESO	Zaragoza	Edelvives	84-263-4931-5	196
Torrescusa & Coterón	2005	Proyecto 2.2, Educación Física, 3 ESO	Zaragoza	Edelvives	84-263-4758-4	262
Torrescusa & Coterón	2005	Proyecto 2.2, Educación Física, 4 ESO	Zaragoza	Edelvives	84-263-4985-4	284
Macagno et al.	2005	Educación Física, 1 y 2 ESO	Madrid	Laberinto	84-8483-094-2	134
Barques Bonet et al.	2006	Educación Física, 3 y 4 ESO	Madrid	Laberinto	84-8483-062-4	134
Martínez, Blanco & Gil	2005	Educación Física, 1 ESO	Barcelona	Octaedro	84-8063-736-6	44
Martínez, Blanco & Gil	2005	Educación Física, 2 ESO	Barcelona	Octaedro	84-8063-737-4	43
Martínez de Santos et al.	2006	Educación Física, 3 ESO	Barcelona	Octaedro	84-8063-809-5	72
Martínez de Santos et al.	2006	Educación Física, 4 ESO	Barcelona	Octaedro	84-8063-810-9	67
Martínez de Haro, V.	2004	Educación Física, 1 ESO	Barcelona	Paidotribo	84-8019-764-1	39
Martínez de Haro, V.	2005	Educación Física, 2 ESO	Badalona	Paidotribo	84-8019-766-8	9
Martínez de Haro, V.	2004	Educación Física, 3 ESO	Barcelona	Paidotribo	84-8019-770-6	30
Martínez de Haro, V.	2005	Educación Física, 4 ESO	Badalona	Paidotribo	84-8019-772-2	22
López, López & Díez	2006	Educación Física, 1 ESO	Madrid	Santillana	84-294-7963-5	37
López, López & Díez	2006	Educación Física, 2 ESO	Madrid	Santillana	84-294-8346-2	26
López, López & Díez	2006	Educación Física, 3 ESO	Madrid	Santillana	84-294-7964-3	40
López, López & Díez	2003	Educación Física, 4 ESO	Madrid	Santillana	84-294-8347-0	42
González Fernández, F.	2001	Educación Física Activa, 1 ESO, 1 Ciclo	Barcelona	Serbal	84-7628-354-7	152
González Fernández, F.	2004	Educación Física Activa, 2 ESO	Barcelona	Serbal	84-7628-415-2	154
González Fernández, F.	2004	Educación Física Activa, 3 ESO	Barcelona	Serbal	84-7628-429-2	186
González Fernández, F.	2004	Educación Física Activa, 4 ESO	Barcelona	Serbal	84-7628-467-5	138
González & Riera	2006	Proyecto Aula, Educación Física, ESO, 1 Ciclo	Barcelona	Teide	84-307-4591-2	189
Riera & González	2005	Proyecto Aula, Educación Física, ESO, 2 Ciclo	Barcelona	Teide	84-307-4592-0	202

References

Alvariñas, M., Fernandez, M. A., & López, C. (2009). Actividad física y percepciones sobre deporte y género [physical activity and perceptions of sport and gender]. *Revista de Investigación en Educación, 6*, 113–122.

Barbero, J. I. (1998). *La cultura de consumo, el cuerpo y la educación física [The culture of consumption, the body and physical education]. Educación física y deporte, 20(1), 9–30*. Retrieved from http://revinut.udea.edu.co/index.php/educacionfisicaydeporte/article/view/3387/0.

Barbero, J. I. (2005). La escolarización del cuerpo: Reflexiones en torno a la levedad de los valores del capital "cuerpo" en

Educación Física [The education of the body: Reflections on the levity of capital 'body' values in physical education]. *Revista Iberoamericana de Educación, 39*, 25–51.

Bardisa, M. T., & Parra, J. (2005, June). *Análisis del sexismo en las ilustraciones de los libros de texto de educación física de 2º ciclo de ESO y bachillerato [Analysis of sexism in textbooks for 2nd cycle obligatory education and higher secondary education physical education textbooks]*. Paper presented at the International Congress UEM. Actividad física y deporte en la sociedad del siglo XXI, Madrid, Spain.

Billings, A. C., & Tyler, S. (2002). Selective representation of gender, ethnicity, and nationality in american television coverage of the 2000 summer olympics. *International Review for the Sociology of Sport, 37*, 351–370. doi:10.1177/101269020203700302.

Biskup, C., & Pfister, G. (1999). I would like to be like her/him: Are athletes role-models for boys and girls? *European Physical Education Review, 5*, 199–218. doi:10.1177/1356336X05052894.

Blanco, N. (2004). Cultures of schooling. No place for women? In F. Hernández & I. F. Goodson (Eds.), *Social geographies of educational change* (pp. 79–90). Dordrecht: Kluwer Academic Publishers.

Botelho, P., & Caetano, S. (2006, July). *Physical education school books: How gender is represented in 7th, 8th and 9th grade*. Paper presented at the 11th Annual Congress of the European College of Sport Science, Lausanne, Switzerland.

Browne, J. (1990). Gender bias in physical education textbooks. *Australian Council for Health, Physical Education and Recreation National Journal, 127*, 4–7.

Capranica, L., Tessitore, A., D'Artibale, E., Cortis, C., Casella, R., & Camilleri, E. (2008). Italian women's television coverage and audience during the 2004 Athens Olympic Games. *Research Quarterly for Exercise and Sport, 79*, 101–115. doi:10.5641/193250308X13086753543095.

Cerezal, F. (1991). *Gender discrimination and ELT textbooks*. Paper presented at the 25th International Association of teachers of English as a foreign language Conference, Exeter, UK.

Clément-Guillotin, C., & Fontayne, P. (2011). Situational malleability of gender schema: The case of the competitive sport context. *Sex Roles, 64*, 426–439. doi:10.1007/s11199-010-9912-1.

Colás, P., & Villaciervos, P. (2007). La interiorización de los estereotipos de género en jóvenes y adolescentes [The interiorisation of gender stereotypes in young people and adolescents]. *Revista de Investigación Educativa, 25*, 35–58.

Delgado, M. A., Barrera, J., & Medina, J. (1992). Análisis del libro de texto en la enseñanza de la educación física [Analysis of physical education textbooks]. *Habilidad Motriz, 1*, 11–18.

Díaz, J. (1996). *Los recursos y materiales didácticos en educación física [Resources and teaching materials for physical education]. Apunts. Educación física y deportes, 43, 42–52*. Retrieved from http://articulos-apunts.edittec.com/43/es/043_042-052_es.pdf.

Díaz, B. (2003, January). *Los libros de texto como instrumentos de deportivización del currículo real de la Educación Física [Textbooks as instruments for the true sportisation of physical education]. Revista Digital Lecturas: Educación Física y Deportes, 56.* Retrieved from http://www.efdeportes.com/efd56/texto.htm.

Elias, N., & Dunning, E. (1992). *Deporte y ocio en el proceso de la civilización [Sports and leisure in the civilisation process]*. México: Fondo de Cultura Económica.

Frideres, J. E., Palao, J. M., & Mottinger, S. G. (2008). Gender in sports coverage of American and Spanish online newspapers. *Women in Sport and Physical Activity Journal, 17*, 62–67.

García Ferrando, M. (2006a). *Encuesta de hábitos deportivos de los Españoles 2005. Posmodernidad y Deporte: Entre la Individualización y la Masificación [Survey of Spanish sporting habits 2005. Postmodernism and sport: Between individualism and massification]*. Centro de Investigaciones Sociológicas. Retrieved from http://www.csd.gob.es/csd/sociedad/encuesta-de-habitos-deportivos/encuesta-de-habitos-deportivos/.

García Ferrando, M. (2006b). Veinticinco años de análisis del comportamiento deportivo de la población española (1980–2005) [25 years of analysis of the Spanish population's sportive behaviour]. *Revista Internacional de Sociología (RIS), 64*(44), 15–38. doi:10.3989/ris.2006.i44.

García Ferrando, M., & Llopis, R. (2011). *Ideal democrático y bienestar personal. Encuesta sobre los hábitos deportivos en España 2010 [Democratic ideal and personal wellbeing. Survey sporting habits in Spain 2010]*. Madrid: Consejo Superior de Deporte y Centro de Investigaciones Sociológicas.

Garreta, N., & Careaga, P. (1987). *Modelos masculino y femenino en los textos de EGB [Masculine and feminine models in primary school texts]*. Madrid: Women's Institute, Ministry of Culture.

González, M. (2005, June). *¿Tienen sexo los contenidos de la educación física escolar? Transmisión de estereotipos de sexo a través de los libros de texto en la etapa de secundaria [Are there sex differences in school physical education contents?]. Revista Internacional de Medicina y Ciencias de la Actividad Física y el Deporte, 18*. Retrieved from http://cdeporte.rediris.es/revista/revista18/artseximo8.htm.

González, G. (2006, December). *Tratamiento educativo del sexismo dentro de la educación física escolar [An educational approach to sexism in the physical education class]*. Paper presented at the I Congreso de jóvenes investigadores en Ciencias de la Actividad Física y del Deporte, Valladolid, Spain.

González, J. M., Ruiz, L. M., & Carrasco, M. (2007). The social construction of gender in Spanish physical education students. *Sport, Education and Society, 12*, 141–158. doi:10.1080/13573320701287460.

Griffin, P. (1995). Homophobia in sport: Addressing the needs of lesbian and gay high school athletes. In G. Unks (Ed.), *The gay teen: Education, practice and theory for lesbian gay and bisexual adolescents* (pp. 53–65). New York: Routledge.

Hargreaves, J. (1994). *Sporting females: Critical issues in the history and sociology of women's sport*. New York: Routledge.

Heras i Trias, P. (1987). El papel de la mujer en la enseñanza y en los libros de texto en Cataluña [The role of women in teaching and textbooks in Catalonia]. In Women's Institute (Ed.), *La investigación en España sobre mujer y educación* (pp. 41–50). Madrid: Ministry of Culture.

Hernández, A., Cortés, N., Rodríguez, H., Menéndez, M., & Barbero, J. I. (1993). Imágenes de género en algunas revistas profesionales de educación física y deporte [Gender images in certain professional physical education and sports journals]. *Perspectivas de la Actividad Física y el Deporte, 16*, 39–44.

Hildreth, K. (1979). *Sexism in elementary physical education literature: A content analysis (doctoral dissertation)*. NC: University of North Carolina.

Institute of Marketing and Public Opinion. (2000). *La transmisión de los modelos femenino y masculino en los libros de la enseñanza obligatoria [The transmission of masculine and feminine models in obligatory education textbooks]*. Madrid: Women's Institute, Ministry of Culture.

King, C. (2007). Media portrayals of male and female athletes. *International Review for the Sociology of Sport, 42*, 187–199. doi:10.1177/1012690207084751.

Kirk, L., Land, S., Patterson, P., & Thomas, J. (1985). *Confronting the stereotypes: Grades 5–8 (vol. 2)*. Manitoba: Manitoba Education.

Klomsten, A. T., Marsh, H. W., & Skaalvik, E. M. (2005). Adolescents' perceptions of masculine and feminine values in sport and physical education: A study of gender differences. *Sex Roles, 52*, 625–636. doi:10.1007/s11199-005-3730-x.

Lacy, S., & Riffe, D. (1996). Sampling error and selecting intercoder reliability samples for nominal content categories: Sins of

omission and commission in mass communication quantitative research. *Journalism & Mass Communication Quarterly, 73*, 969–973. doi:10.1177/107769909607300414.

Latorre, P. A., González, M. A., Moreno, A. J., Sierra, M. D. Carmona, F. J., Molina D.,… Vergillos, L. (2007, March). *Mujer, deporte y medios de comunicación [Women, sports and the media]. Revista digital lecturas: Educación Física y Deportes, 106.* Retrieved from http://www.efdeportes.com/efd106/mujer-deporte-y-medios-de-comunicacion.htm.

Lee, J. F. K., & Collins, P. (2008). Gender voices in Hong Kong English textbooks–some past and current practices. *Sex Roles, 59*, 127–137. doi:10.1007/s11199-008-9414-6.

Lippe, G. (2002). Media image. Sport, gender and national identities in five European countries. *International Review for the Sociology of Sport, 37*, 371–395. doi:10.1177/101269020203700306.

López, C. (2005). *Las imágenes fijas del cuerpo relacionadas con la actividad física y el deporte. Análisis de su uso en la publicidad de revistas [Set images of the body related to physical activity and sports. Analysis of their use in magazine advertising] (doctoral dissertation).* University of Vigo, Spain.

Low, J., & Sherrard, P. (1999). Portrayal of women in sexuality and marriage and family textbooks: A content analysis of photographs from the 1970s to the 1990s. *Sex Roles, 40*, 309–318. doi:10.1023/A:1018859207448.

Luengo, M. R., & Blázquez, F. (2004). *Género y libros de texto. Un estudio de estereotipos en las imágenes [Gender and textbooks. A study of stereotypes in images]*. Badajoz: Junta de Andalucía.

Lynn, S., Hardin, M., Hardin, B., & Walsdorf, K. (2002). Selling girls short: Advertising and gender images in sports illustrated for kids. *Women in Sport and Physical Activity Journal, 11*, 77–100.

Macías, M. V., & Moya, M. C. (2002). Estereotipos y deporte femenino. La influencia del estereotipo en la práctica deportiva de niñas y adolescentes [Stereotypes and feminine sports. The influence of stereotypes in the practice of sport by girls and teenagers]. In B. Vázquez Gómez (Ed.), *Mujeres y actividades físico-deportivas* (pp. 61–65). Madrid: Consejo Superior de Deportes.

Manrique, J. C, Torrego, L., López, V., Monjas, R. (2009). *Factores que determinaron una educación física y deportiva de género durante el franquismo [Factors that determined a gender-based sports and physical education during Franco's regime]. Apunts. Educación física y deportes, 98, 5–14*. Retrieved from http://articulos-apunts.edittec.com/98/es/098_005-014_es.pdf.

Martínez, A. (2004). La construcción social del cuerpo en las sociedades contemporáneas [The social construction of the body in contemporary societies]. *Papers, 73*, 127–152.

Mkuchu, S. G. V. (2004). *Gender roles in textbooks as a function of hidden curriculum in Tanzania primary schools (doctoral dissertation)*. South Africa: University of South Africa.

Moreno, A. (1987). El orden androcéntrico del discurso histórico. Ejercicios de lectura crítica no-androcéntrica [The androcentric order of historical discourse. Exercises in non-androcentric critical reading]. In Women's Institute (Ed.), *La investigación en España sobre mujer y educación* (pp. 9–18). Madrid: Ministry of Culture.

Neuendorf, K. A. (2011). Content analysis- a methodological primer for gender research. *Sex Roles, 64*, 276–289. doi:10.1007/s11199-010-9893-0.

Oskamp, S., Kaufman, K., & Wolterbeek, L. A. (1996). Gender role portrayals in preschool picture books. *Journal of Social Behavior and Personality, 11*(5), 27–39.

Parra, J. (2002). *Análisis del sexismo en los libros de texto de educación física: 2º ciclo de ESO y bachillerato [Analysis of sexism in physical education textbooks: Second cycle of ose and higher secondary school] (doctoral dissertation)*. Spain: Distance Education University.

Pastor, J. L. (2005). *Manuales escolares y libros de texto de educación física en los estudios de magisterio (1883–1978) [School physical education handbooks and textbooks in teacher training studies]*. Alcalá de Henares: Universidad de Alcalá.

Pedersen, P. M. (2002). Examining equity in newspaper photographs. A content analysis of the print media photographic coverage of interscholastic athletics. *International Review for the Sociology of Sport, 37*, 303–318.

Peñalver, R. (2003). *¿Qué quieres enseñar? Un libro sexista que oculta a la mitad [What do you want to teach? A sexist book that hides one half]*. Murcia: Instituto de la Mujer de la Región de Murcia.

Penney, D. (2001, December). *The power of silence and myth of neutrality. Gender in the national curriculum for physical education in England*. Paper presented at the Australian Association for Research in Education Conference, Fremantle, Australy.

Pérez, J. C. (2000). *El cuerpo en venta. Relación entre arte y publicidad [Body for sale. Relationship between art and advertising]*. Madrid: Cátedra.

Pérez-Samaniego, V. & Santamaría-García, C. (2007). *Educación, currículum y masculinidad en España [Education, curriculum and masculinity in Spain]. Gizonduz. Emakunde-Instituto Vasco de la Mujer.* Retrieved from http://www.berdingune.euskadi.net/u89-congizon/es/contenidos/informacion/material/es_gizonduz/adjuntos/Educaci%C3%B3n,%20curr%C3%ADculum%20y%20masculinidad%20en%20Espa%C3%B1a.pdf.

Pfister, G., Fasting, K., Scraton, S., & Vázquez, B. (2002). Women and football—a contradiction? The beginning of women's football in four European countries. In S. Scraton & A. Flintoff (Eds.), *Gender and sport: A reader* (pp. 66–77). London: Routledge.

Puig, N. (2001). Women's contribution to sport in the 20th century. *Olympic Review, XXVII*(41), 55–61.

Puig, N., & Soler, S. (2003). Women and sport in Spain. In I. Hartmann-Tews & G. Pfister (Eds.), *Sport and women. Social issues in international perspective* (pp. 83–101). London: Routledge.

Ribas, A., & Guerrero, J. A. (1992). Análisis del sexismo en los libros de texto de educación física [Analysis of sexism in physical education textbooks]. In Institut de la Dona (Ed.), *L'ensenyament de l'educació física [the teaching of physical education]* (pp. 379–390). Valencia: Generalitat valenciana.

Ruiz, L. M., Graupera, J. L., Moreno, J. A., & Rico, I. (2010). Social preferences for learning among adolescents in secondary physical education. *Journal of Teaching in Physical Education, 29*, 3–20.

Sadker, M. P., & Sadker, D. M. (1980). Sexism in teacher-education texts. *Harvard Educational Review, 50*, 36–46.

Scharagrodsky, P., Manolakis, L., & Barroso, R. (2003). The Argentinean physical education in the school's manuals and texts of the primary level (1880–1930). *Revista Brasileira de história da educação, 5*, 69–91.

Scraton, S., Fasting, K., Pfister, G., & Buñuel, A. (1999). It's still a man's game: The experiences of top-level European women footballers. *International Review for the Sociology of Sport, 34*, 99–111. doi:10.1177/101269099034002001.

Shen, B., Chen, A., Tolley, H., & Scrabis, K. A. (2003). Gender and interest-based motivation in learning dance. *Journal of Teaching in Physical Education, 22*, 396–409.

Shields, S., Gilbert, L., Shen, X., & Said, H. (2004). A look at print media coverage across four olympiads. *Women in Sport and Physical Activity Journal, 13*, 87–99.

Soler, S. (2000). *Sobre la participación femenina en las actividades deportivas [On female participation in sports activities]. Apunts. Educación física y deportes, 60, 102–105*. Retrieved from http://articulos-apunts.edittec.com/60/es/60_0108_110_ES.pdf.

Spain Government. National Sport Council (2011a). *High-level athletes.* Retrieved from http://www.csd.gob.es/csd/competicion-en/04world-class-sport/world-class-athletes/high-level-athletes.

Spain Government. National Sport Council (2011b). *Historia de la participación olímpica y paralímpica española [History of the*

Spanish olympic and paralympic participation]. Retrieved from https://venus.csd.gob.es/hjjoo/BuscadorHistoriaOlimpica.aspx.

Sparkes, A. C. (2002). *Telling tales in sport and physical activity: A qualitative journey*. Exeter: Human Kinetics.

Vázquez, B. (1987). Educación física para la mujer: Mitos, tradiciones y doctrina actual [Physical education for women. myths, traditions and the current doctrine]. In *Mujer y deporte* (pp. 57–63). Madrid: Instituto de la Mujer, Serie "Debates".

Vilanova, A., & Soler, S. (2008). *Las mujeres, el deporte y los espacios públicos: Ausencias y protagonismos [Women, sports and public space: Absences and protagonisms]*. *Apunts, Educación física y deportes, 91, 29–34*. Retrieved from http://articulos-apunts.edittec.com/91/es/091_029-034ES.pdf.

Waddington, I., Malcolm, D., & Cobb, J. (1998). Gender stereotyping and physical education. *European Physical Education Review, 4*, 34–46. doi:10.1177/1356336X9800400104.

Whitehead, S., & Biddle, S. (2008). Adolescent girls' perceptions of physical activity: A focus group study. *European Physical Education Review, 14*, 243–262. doi:10.1177/1356336X08090708.

Williams, J. A., Vernon, J. A., William, M. C., & Malecha, K. (1987). Sex role socialization in picture books: An update. *Social Science Quarterly, 68*, 148–156.