

Analysis of textbooks in Brazil and Spain: an introduction to the topic in the area of Physical Education

*Rafael Guimarães Botelho**
*Marcos Garcia Neira***

Abstract: This article aims at reviewing works focused on the analysis of Physical Education textbooks. The 17 papers retrieved between 2000 and 2012 reveal that the images of women with slender bodies and muscular men prevail in the books. Regardless of ethnic, age and multiform diversity, the images promote white and athletic people. Therefore, we can say that stereotypes, prejudice and discrimination related to gender, age, ethnicity, race, and body patterns still prevail in images and texts of the books analyzed by Brazilian and Spanish authors.

Key words: Textbooks. Physical education. Brazil. Spain

1 INTRODUCTION¹

In Brazil, when any reference is made to Physical Education textbooks, the academic approach of the authors focuses only on development and use of this type of curriculum material, as can

¹Direct and indirect quotations from texts in Portuguese were translated into Spanish by the authors of this work, and then translated into English.

*Federal Institute of Education Science and Technology of Rio de Janeiro. Rio de Janeiro, RJ. Brazil. E-mail: rafaelgbotelho@ig.com.br

**School of Education. University of Sao Paulo. Sao Paulo, SP. Brazil. E-mail: mgneira@usp.br

be seen by consulting works published in this country (DINIZ; DARIDO, 2012; RODRIGUES; DARIDO, 2011; DARIDO *et al.*, 2010; GALATTI; PAES; DARIDO, 2010).

However, textbook analysis is a step that must precede the development and application of those materials in the Physical Education practicum. This idea is confirmed by experts in the field: “The development of educational materials for a given stage could be a post-analysis proposal” (DEVÍS DEVÍS; PEIRÓ VELERT, 2004, p. 88) “[...] the teacher should not resort to the books without a previous critical and reflective analysis. Reasonableness based on previously established educational criteria is essential in the use of that teaching resource” (TÁBOA PAIS; REY CAO, 2007, p. 27).

In the English-speaking sphere, the topic of textbook analysis had already been addressed in the doctoral thesis *Sexism in elementary Physical Education literature: a content analysis* (HILDRETH, 1979).

However, texts published on the analysis or evaluation of variables related to Physical Education and Sports in textbooks in general and in Physical Education textbooks in particular are still little known and discussed. In other words, Brazil still lacks a review of such works.

Therefore, and based on the above, the following questions are put forward:

Is it possible to analyze and evaluate variables related to Physical Education and Sports in textbooks?

What variables are analyzed by authors investigating Physical Education textbooks?

In order to answer the question, the general goal of this article is to review the works that focus on the analysis and evaluation of textbooks in the area of Physical Education in Brazil and Spain.

To help achieve this goal, we set the following specific goals:

a) To create a descriptive framework that enables the presentation of data from retrieved papers;

b) To quantify the object of study and analysis variables chosen by authors identified to analyze and evaluate textbooks.

2 MATERIALS AND METHODS

2.1 DOCUMENT ANALYSIS

According to Chaumier (1993, p. 17), document analysis is “[...] an operation or set of operations aimed at representing the content of a document in a form different from its original form, in order to facilitate its consultation or location at a later stage”.

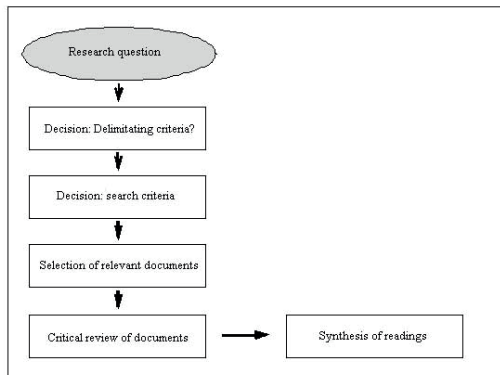
In simple terms, “[...] document analysis allows passing from a primary (raw) document to a secondary document (a representation of the former), for instance, summaries or extracts (condensation of the document according to certain rules)” (BARDIN, 2002, p. 35).

Therefore, the document analysis used will allow submitting units of significance (described in the table of results) that the works identified and retrieved chose for textbook analysis. Therefore, that type of analysis allows document control and information retrieval (LÓPEZ YEPES, 2004).

2.2 PROCEDURES USED IN THE LITERATURE REVIEW

Heinemann (2008, p. 41) reminds us out that “[...] it is impossible to cover everything; therefore, it is necessary to establish criteria defining the search and reading of literature [...]”.

As a result, in order to carry out that review, we followed the scheme of Figure 1.

Figure 1: Procedure plan: literature review

Source: HEINEMANN, 2008, p. 39.

2.2.1 INFORMATION SOURCES FOR THE SEARCH

In this review, we used three categories of information sources, according to the criteria adopted by Grogan (1982), Cunha (2001) and Pereira (2012): Primary, secondary and tertiary sources.

- **Primary sources.** Scientific journals in two languages.

Spanish: Revista Kronos; Revista Española de Educación Física y Deportes; Revista Internacional de Medicina y Ciencias de la Actividad Física y del Deporte; Tándem: didáctica de la Educación Física; Lecturas: EF y Deportes; Educación Física y Deporte.

Portuguese. Revista Movimento; Revista Brasileira de Ciências do Esporte; Revista Brasileira de Educação Física e Esporte; Revista Motriz; Revista Pensar a Prática.

- **Secondary sources.** Catalogs, search engines, repositories and databases into the two languages.

Spanish. Dialnet database, the doctoral theses base (TESEO)

of Spain's Ministry of Education, Culture and Sports, the TDX repository (Tesis Doctorals en Xarxa) and the Network of Spanish University Libraries: catálogo colectivo de REBIUN.

Portuguese. Portal Domínio Público, Bank of Thesis of Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES) and Núcleo Brasileiro de Dissertações e Teses em Educação, Educação Física e Educação Especial (NUTESES).

In addition, we used the search engine Google in both languages

- **Tertiary sources.** Library of Centro de Educação e Humanidades da Universidade do Estado do Rio de Janeiro (UERJ) and library of Faculdade de Educação da Universidade de São Paulo (USP).

2.2.2 SEARCH CRITERIA

- **Search period:** searches were conducted between June and December 2012.

- **Key words used in search:** In Spanish: “Libros de texto”, “Educación Física” and “Deporte”. In Portuguese: “Livros didáticos”, “Educação Física” and “Esporte”

2.2.3 DEFINITION OF THE OBJECT OF STUDY

Delimitations established for conducting the literature review are presented next.

- **Delimitation according to publication type.** Master's theses, doctoral dissertations, journal articles, conference proceedings, books and book chapters were included in this work.

- **Temporal delimitation.** Papers published between 2000 and 2012 were investigated.

• **Language delimitation.** Papers retrieved were published in Spanish and Portuguese.

3 RESULTS

3.1 ANALYSIS AND EVALUATION OF VARIABLES RELATED TO PHYSICAL EDUCATION AND SPORTS IN TEXTBOOKS OF OTHER SCHOOL SUBJECTS

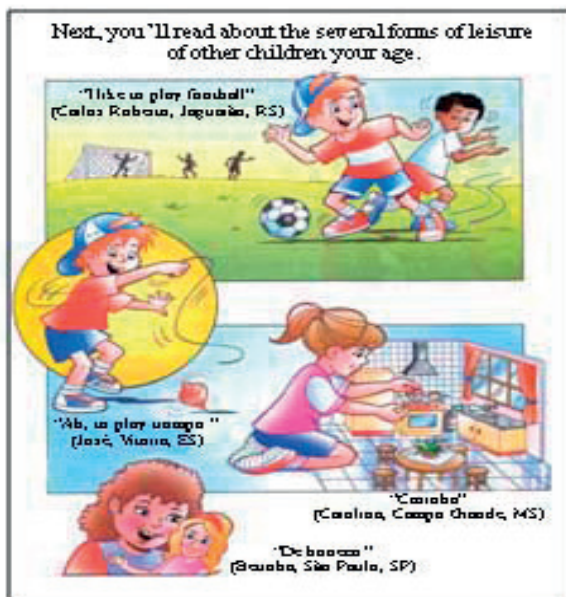
Silveira (2000) analyzed current models for elderly people in relation to physical activities in illustrations and texts from textbooks on Social Studies, History, Geography and Science (one book per subject).

Results indicated that a total of 58 illustrations and two quotes refer to physical activities. “Of all illustrations found, 52 show children and adolescents, while the remaining eight show images of adults. Consequently, none of the illustrations and quotes refers to the elderly” (SILVEIRA, 2000, p. 137).

In his work, Botelho (2005, p. 201) stresses that “[...] exercises and texts as well as illustrations reinforce the ideological content to be conveyed”.

[...] Consequently, images, photographs, texts related to physical activity and sport, health, recreation and leisure are still conveyed in those books (independent of the subject) and end up creating stereotypes (many of them negative), reinforcing forms of prejudice and negative discrimination towards the practice of Physical Education (BOTELHO, 2005, p. 203).

Next, we present an image published on a Brazilian textbook.

Figure 2: Recreational activities for boys and girls

Source: MARIN; QUEVEDO; ORDOÑEZ, 2004, p. 184

The view of the authors of the textbook suggests an activity related to re-creation and sports fully pervaded with sexist stereotypes and discrimination, such as the androcentric view of that image (BOTELHO, 2005).

Below, an illustration is presented – which further strengthens the problem of sexism transmitted through game images – taken from a textbook by Michel (1987), in her renowned work *Fuera moldes: hacia una superación del sexismo en los libros infantiles y escolares*.

Figure 3: Sexism in game images

Source: MICHEL, 1987, p. 58

Toscano (2000, p 62) confirms that assertion when she says that:

Textbooks aimed at Elementary School and the first year of Secondary School deeply resist accepting women's sports in their contents. Whenever we arrive at the group of consonants *tl* in literacy primers, the word often used is *atleta*, and it is always used as masculine, as if athletic activity were exclusive of boys.

Vicente Nicolás (2009) analyzed the educational treatment of movement and dance in Music Education textbooks used in schools in the Murcia area. To do this, the author used a sample of “[...] 728 activities related to movement and dance [...]” (NICOLÁS, 2009, p. 210) in 30 textbooks by five publishers: Santillana, Alhambra, Anaya, SM and Everest. Some conclusions of the study are:

- “The treatment that movement and dance receive in different publishers depending on the type of activities and its contents should be seen as varied and with different approaches [...]” (NICOLAS, 2009, p 445.)

- “The scarce proposal of movement and dance activities globalized with other content blocks from the area of music” (NICOLÁS, 2009, p. 446.)

- “The treatment of musical content from the perspective of movement and dance is superficial [...]” (NICOLÁS, 2009, p. 447).

Vicente Nicolás’s (2010, p. 209) article confirms the results found in his thesis, since “[...] they reveal unequal treatment given to movement by distinct publishers and a predominance of motor activities in the books of the first years of that stage”

3.2 ANALYSIS AND EVALUATION OF TEXTBOOKS IN THE AREA DE PHYSICAL EDUCATION

Parra Martínez’s doctoral thesis (2002) discusses sexism in Physical Education textbooks in the 2nd cycle of Mandatory Secondary Education (ESO) and “Bachillerato” (post-16 education). His goal was to know whether or not PE textbooks post-LOGSE² eliminated sexism and stereotypes from their contents as proposed by the law.

Using content analysis, the author concluded that the PE textbooks analyzed were sexist in their written language as well as the iconic language they represented. Furthermore, none of the publishers studied had recommendations to eliminate sexism from textbooks.

Díaz Crespo (2003) conducted content analysis on textbooks used in the last years of Secondary Education in the area of Physical

²LOGSE: *Ley Orgánica General del Sistema Educativo*. Organic Law 1/1990 of 3 October, for General Ordering of the Education System, published by Spain’s Ministry of Education, Culture and Sports.

Education. The author's aim was to see how content blocks were distributed in *Games and sports*, *Physical condition*, *Motor qualities*, *Body language* and *Physical activities in the natural environment*.

Díaz Crespo (2003) pointed out disparity in treatment of different thematic blocks in the manuals analyzed. For instance, the main blocks are those on games and sports (50%) and physical condition (23%); together, they reach 73% of the total content.

Those results found in the textbooks analyzed confirm the process of sportization of the actual Physical Education curriculum in Secondary Education (DÍAZ CRESPO, 2003).

In turn, González Pascual (2005, p. 79) investigated “[...] whether School Physical Education fosters and/or reinforces gender difference ideologies through its educational materials and specifically its textbooks [...]”

To do that, the author conducted content analysis on 17 textbooks by eight PE publishers edited for students of Mandatory Secondary Education (from first to fourth year of ESO) and considered variables such as images, language expressions, terms and words used, as well as the number of male and female characters represented individually or mixed.

The following aspects stand out in the conclusions of González's study:

“[...] The existence of sexism was confirmed in physical education and specifically in this case, in textbooks” (GONZÁLEZ PASCUAL, 2005, p. 86).

“[...] According to the results of this study, it has been found, that textbooks are transmission mediators of potential sexism. Therefore, that educational material can help maintain some inherited ideas in the field of Special Physical Education” (GONZÁLEZ PASCUAL, 2005, p. 87).

Rosário (2006) wrote a master's thesis aimed at analyzing contents of Science and History textbooks, and to relate them to School Physical Education contents. The idea was to find text and illustrations on body culture in those books that could be used by Physical Education teachers in their classrooms.

Results indicate that the books analyzed include a series of texts and illustrations that relate directly to Physical Education contents (ROSÁRIO, 2006).

Marangon (2009) wrote a doctoral thesis on the Physical Education textbook used in the State of Paraná. That study aimed at understanding how knowledge becomes the pedagogical discourse of a Physical Education textbook.

The analysis found that the structural contents are sports, games, gymnastics, dance and fighting (MARANGON, 2009, p. 88). The author further adds that: “[...] to be a competent Physical Education student, the book suggests that the pupil must be able to read, create hypotheses, investigate, that is, all skills required to solve problems.”

One conclusion of the study states:

[...] The mobilization of knowledge in the pedagogical discourse of the book is characterized by the emphasis of the instructional speech aimed at reflecting on broader historical and cultural aspects of bodily practices [...] (MARANGON, 2009, p. 195).

Rey Cao and Táboas Pais (2006) developed a tool for analysis of images printed on Physical Education textbooks in Mandatory Secondary Education.

That first instrument was improved, generating a final version that

[...] consists of two blocks. The first one collects technical characteristics of the photographs: type of shot and type of focus. The second block, in turn, is divided into two main dimensions: body

and physical activity. (TÁBOAS PAIS; REY CAO, 2011, p. 302-304).

From that instrument, and based on Táboas Pais's (2009) doctoral thesis – supervised by Rey Cao – the two authors wrote a series of articles in which each of them investigated a particular variable (2007, 2009, 2011a, 2011b, 2012). They published another article in collaboration with Alba González Palomares, (2010).

In 2007, the authors analyzed a sample of 242 images printed on Physical Education textbooks for Secondary Education.

In conclusion, the images of the textbooks analyzed represented predominantly a model of a male, young, white body whose body type is a “mix” of different somatotypes and wears sportswear. Photographs published by Paidotribo established a significant association of men with sports and the sports elite, and women with other non-sports activities and “non-elite” levels. Furthermore, the presence of individuals of races “other” than white is insufficient in the images of the two publishers analyzed. In Paidotribo's books, those individuals are linked to sports and competition rather than other types of physical activities or in other areas such as education (GONZÁLEZ PALOMARES, 2007, p. 27).

In another work, Táboas Pais y Rey Cao (2009, p. 73) show that “[...] images analyzed reflect mostly sports activities – team sports, especially – and greatly reduce the chances for other motor practices.”

In her doctoral thesis, Táboas Pais (2009) notes a male, young, white body model whose body type is the combination of somatotypes and who wears sportswear prevailing in images of Physical Education textbooks.

González Palomares, Táboas Pais and Rey Cao (2010) investigated the images of Physical Education textbooks published under LOGSE and LOE.³ “The sample consisted of 3,316 photographs

³LOE: Ley Orgánica de Educación, Law 2/2006, of May 3, published by Spain's Ministry of Education, Culture and Sports.

published under the legislative framework of LOGSE and 536 photographs published under the current education law (LOE) [...]” (p 32).

As a general conclusion, there are no substantial improvements between PE textbooks published under LOGSE and books issued under the new education law (LOE) regarding their representation of racial diversity. PE Textbooks continue to perpetuate stereotyped models based on races and to offer a skewed view of their participation in sports [...]. (GONZÁLEZ PALOMARES; TÁBOAS PAIS; REY CAO, 2010, p. 36).

In another study (TÁBOAS PAIS; REY CAO, 2011a, p. 99), the aim was “to reflect on body models related to physical activity”. The sample consisted of 3,316 photographs published in 36 Physical Education textbooks.

Results showed that models notoriously thin and/or muscular are rare in photographs of physical education textbooks, although women tend to be associated with slender bodies to men with mesomorphic or muscular bodies. Physical education textbooks for secondary education seem to have started a process of change from the existing stereotypical views on the social imaginary.

The authors (2011b) published the text *Las imágenes en los libros de texto de Educación Física de la ESO: modelos corporales y actividade física*, whose general goal was to analyze 242 images printed on Physical Education textbooks by publishers Anaya and Paidotribo.

The third article published in the same year (TÁBOAS PAIS; REY CAO, 2011c) was aimed at identifying what students focus on when they see the images on Physical Education textbooks. The results show that stereotypes about physical activity and sports are read in the images, such as cultures related to muscles, thinness and youth as the ideal body model.

In a more recent work, Táboas Pais and Rey Cao (2012, p. 52) analyzed 3,316 images published on 36 Physical Education

textbooks.

In conclusion, data from this study indicate reproduction of a traditional PE model under LOGSE. Images published on ESO's textbooks are associated to fitness and sports contents. Sports enjoy preferential treatment as opposed to other practices such as activities in nature, art and body expression, interiorization practices, or postural hygiene exercises [...].

Next, a description box presents a summary of research analyzing Physical Education textbooks, in addition to variables related to that area on books of other school subjects.

Table 1: Summary of works that analyze and evaluate textbooks in Physical Education or variables related to that area on textbooks of other subjects.

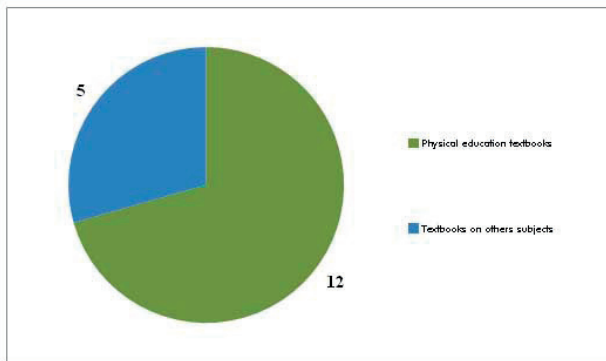
AUTHORS/YEAR	TYPE OF WORK /LANGUAGE	OBJECT OF STUDY	MAIN VARIABLE (S) OF ANALYSIS
María Inés Táboas Pais and Ana Isabel Rey Cao (2012)	Article (Spanish)	Physical Education Textbooks (Illustrations)	Physical Activities
María Inés Táboas Pais y Ana Isabel Rey Cao (2012)	Article (Spanish)	Physical Education Textbooks (Illustrations)	Students' view regarding images
María Inés Táboas Pais y Ana Isabel Rey Cao (2011b)	Article (Spanish)	Physical Education Textbooks (Illustrations)	Gender, age, race, somatotype, clothes and physical activities
María Inés Táboas Pais and Ana Isabel Rey Cao (2011a)	Article (Spanish)	Physical Education Textbooks (Illustrations)	Gender, age, race, somatotype, clothes
Alba González Palomares, María Inés Táboas Pais and Ana Isabel Rey Cao (2010)	Article (Spanish)	Physical Education Textbooks (Illustrations)	Race
Gregorio Vicente Nicolás (2010)	Article (Portuguese)	Music Education Textbooks (Illustrations and Texts)	Movement and Dance

Davi Marangon (2009)	Doctoral thesis (Portuguese)	Physical Education Textbook (Texts)	Pedagogical discourse
María Inés Táboas Pais y Ana Isabel Rey Cao (2009)	Article (Spanish)	Physical Education Textbook (Illustrations)	Physical activities
María Inés Táboas Pais (2009)	Doctoral thesis (Spanish)	Physical Education Textbooks (Illustrations)	Gender, age, race, somatotype, clothes and physical activities
Gregorio Vicente Nicolás (2009)	Doctoral thesis (Spanish)	Music Education Textbooks (Illustrations and Texts)	Movement and Dance
María Inés Táboas Pais and Ana Isabel Rey Cao (2007)	Article (Spanish)	Physical Education Textbooks (Illustrations)	Gender, age, race, somatotype, clothes and physical activities
Luis Fernando Rocha Rosário (2006)	Master's Thesis (Portuguese)	Science and History Textbooks (Illustrations and Texts)	Content blocks (Body Culture/ Physical Education School)
Marta González Pascual (2005)	Article (Spanish)	Physical Education Textbooks (Illustrations and Texts)	Gender
Rafael Guimarães Botelho (2005)	Book Chapter (Portuguese)	Literacy and History Textbooks (Illustrations and Texts)	Age and gender
Benjamín Díaz Crespo (2003)	Article (Spanish)	Physical Education Textbooks (Illustrations and Texts)	Content blocks (games and sports, physical condition, motor skills, body expression, and physical activities in the natural environment)
Juan Parra Martínez (2002)	doctoral thesis (Spanish)	Physical Education Textbooks (Illustrations and Texts)	Gender

Plínio Marcelo Decaro Silveira (2000)	Congress Proceedings (Portuguese)	Social Studies, History, Geography and Science Textbooks (Illustrations and Texts)	Age
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Below, Chart 1 presents the quantitative study of the object chosen by the authors listed in Table 1.

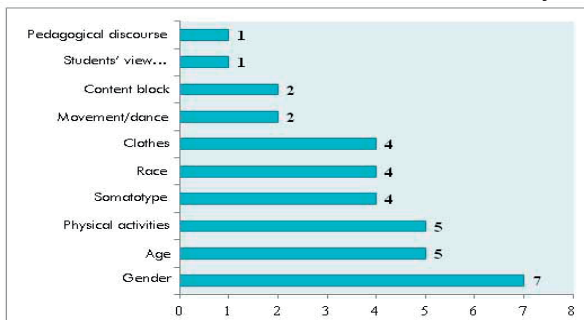
Chart 1: Absolute values of the object studied



Source: Research data.

In turn, Chart 2 shows the values of the main variables of analysis chosen by the authors listed in Table 1.

Chart 2: Absolute values of the main variables of analysis.



Source: Research data.

4 DISCUSSION

The few works found in over a decade focused on analysis rather than evaluation. Therefore, content analysis was the technique most often used by authors.

Regarding the object of study, **five** research studies chose textbooks from other school subjects (Literacy, Science, Music Education, Social Studies, Geography and History) while **twelve** publications analyzed Physical Education textbooks. Of those 17 studies, eight analyzed illustrations and texts. In addition, eight other works (all by Táboas Pais and Rey Cao) dealt only with illustrations, and one document (Marangon's thesis) investigated the text of a Physical Education book.

In qualitative and mainly quantitative terms, it was possible to verify that Brazilian studies are still scarce if compared to Spanish publications.

Another important point is the considerable number of Physical Education textbooks published in Spain. That undoubtedly led researchers in the area to choose those books as objects for their studies, thus increasing scholarship on the topic.

Regarding works retrieved, the most interesting aspect lies in the analysis variables selected by the several authors. It is precisely that aspect that concentrates most important contributions. The scope of the analysis reveals the range of possibilities in this field of research. Authors usually focused on skewed representations on the body, physical activities, gender, race, age and Physical Education topics.

The works analyzed reveal that educational contents related to Physical Education are disseminated in a traditional way, emphasizing a model in which physical exercise is restricted to high-performance competition. Despite some specific changes, women with slender bodies and muscular men prevail in images published in textbooks. Regardless of ethnic, age and multiform

diversity, images advocate white, athletic, thin and people wearing sportswear.

Other issues highlighted by authors reviewed are those that reinforce prejudice, for example, the absence of people with disabilities or special needs involved in the sports field or practicing physical exercise(s), and wide incidence of male figures in most of the images, which further reinforces a sexist stance in body practices.

Based on the findings, we can state that images and written texts – as they show a hegemonic notion of bodily practices and their practitioners – create stereotypes and negatively reinforce differences. That certainly creates effects that are absolutely contrary to democratic education, that is, an education that ascribes equal value to all groups coexisting in contemporary society.

5 FINAL REMARKS

In the education field, there is a consensus about textbooks' influence on the development of representations by students. Torres Santomé's (2011, p. 86) denunciations warn us about how people belonging to non-dominant social groups are represented in teaching materials. As an example, the author states that:

Most textbooks in Spain still hold the underlying philosophical assumption according to which, in this world, there are only white, Western, middle class, urban and employed adult males, who are also Catholic, heterosexual, thin/healthy and robust.

According to Silva (2008), the way subjects, practices, histories and life contexts are narrated defines the relationship students establish with those cultural identities. This fact justifies the constant attention that teachers should dedicate to resources used in classroom, and it is necessary to avoid the risk of spreading distorted, stereotypical and derogatory images on the segments of society that have less power to spread their own representations.

Although the analysis of materials offered to students used to be already a policy in some countries, the procedure is virtually incipient in the area of physical education in several others. Little is known about how expressions of the body or their practitioners' are represented in students' textbooks. Research on the topic, which could help establish criteria or disclose what types of subliminal messages they spread, is still rare and restricted to certain languages spheres. Therefore, this article showed the need to pay attention to the subject as well as to share the analyzes conducted by Brazilian and Spanish authors.

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In early 2013, it was possible to identify three recently published articles: *Estereotipos sexistas en el ámbito educativo: análisis de las portadas de los libros de Educación Física* (HERRADOR SÁNCHEZ, 2013), *Estereotipos de sexo y raza en las imágenes de los libros de texto de Educación Física en primaria* (MOYA MATA *et al.*, 2013a) and *Las imágenes de los libros de Educación Física de primaria desde la perspectiva de género* (MOYA MATA *et al.*, 2013b). That, no doubt, reveals a trend towards an increase in research focused on Physical Education textbooks in Spain.

With regard to the limitations of this study, the first one has to do with the little space given to the discussion of dissertations and theses, as it is very difficult (and even dangerous) to summarize such comprehensive and detailed works in a few lines. The second limitation is related to the difficulty in determining or summarizing the main study variables in some of the papers reviewed.

However, and despite the limitations presented, this article can be considered a prospective contribution to the analyses as well as the development and use of the textbooks in the area of Physical Education.

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Correspondence address

Rafael Guimarães Botelho

Instituto Federal de Educação, Ciência e Tecnologia do Rio de Janeiro (IFRJ)

Campus Arraial do Cabo

Rua José Pinto de Macedo, s/n, CEP: 28930-000, Prainha, Arraial do Cabo, RJ, Brasil

Campus Rio de Janeiro

Rua Senador Furtado, 121, CEP 20270-021, Maracanã, Rio de Janeiro, RJ, Brasil

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