

WOMEN ATHLETES IN BRAZILIAN PHYSICAL EDUCATION MANUALS

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Abstract

Athletes are icons of sport, as they are considered models to be imitated by society in general, specifically by students. The objective of this study was to verify whether the imagery references of professional athletes represented in physical education textbooks in elementary school I and II in Brazil perpetuate male sports models, or, on the contrary, make visible female sports models. We used a descriptive and comparative methodology by publishers, and, as a research technique, content analysis. The results show the predominance of the male sports model in the images. Therefore, it is necessary that publishers review these teaching materials to increase female representation and begin offering female sports role models to students.

GENDER RELATIONS • PHYSICAL EDUCATION • TEXTBOOKS

MULHERES ATLETAS NOS MANUAIS DE EDUCAÇÃO FÍSICA BRASILEIROS

Resumo

Os atletas são ícones do esporte, pois são considerados modelos a serem imitados pela sociedade em geral, especificamente pelos alunos. O objetivo deste estudo foi verificar se as referências imagéticas de atletas profissionais representadas nos livros didáticos de educação física no ensino fundamental I e II no Brasil perpetuam modelos esportivos masculinos, ou tornam visíveis os modelos esportivos femininos. Utilizamos uma metodologia descritiva e comparativa por editoras, e, como técnica de pesquisa, a análise de conteúdo. Os resultados mostram o predomínio do modelo esportivo masculino nas imagens. Portanto é necessário que as editoras revisem esses materiais didáticos para aumentar a representatividade feminina e passar a oferecer modelos esportivos femininos aos discentes.

RELAÇÕES DE GÊNERO • EDUCAÇÃO FÍSICA • LIVROS DIDÁTICOS

MUJERES DEPORTISTAS EN LOS MANUALES DE EDUCACIÓN FÍSICA BRASILEÑOS

Resumen

Los y las deportistas son iconos del deporte, ya que se consideran modelos a imitar por la sociedad en general, en particular por el alumnado. El objetivo de este estudio fue verificar si las referencias de las imágenes de deportistas profesionales representadas en los libros de texto de educación física en la educación primaria y secundaria en Brasil perpetúan modelos deportivos masculinos, o, por el contrario, visibilizan modelos deportivos femeninos. Se utilizó una metodología descriptiva y comparativa por editoriales, siendo el análisis de contenido la técnica de investigación. Los resultados muestran el predominio del modelo deportivo masculino en las imágenes. Por lo tanto, es necesario que las editoriales revisen estos materiales didácticos para aumentar la representación de mujeres y empezar a ofrecer modelos deportivos femeninos al estudiantado.

RELACIONES DE GÉNERO • EDUCACIÓN FÍSICA • LIBROS DE TEXTO

FEMMES ATHLÈTES DANS LES MANUELS D'ÉDUCATION PHYSIQUE BRÉSILIENS

Résumé

Les athlètes sont des icônes sportifs, car ils sont tenus pour des modèles à être suivis par la société en général et, plus précisément, par les étudiants. Le but de cette étude a été de vérifier si les images d'athlètes professionnels trouvées dans les livres didactiques brésiliens d'éducation physique perpétuent des modèles sportifs masculins ou bien rendent visibles des modèles féminins. On a employé une méthodologie descriptive et comparative des maisons d'édition analysées, et l'analyse de contenu comme technique de recherche. Les résultats révèlent que prévalent les images des modèles sportifs masculins. Il est donc nécessaire que les éditeurs révisent ces supports pédagogiques pour accroître la représentation des femmes et commencent à proposer aux étudiants des modèles sportifs féminins.

RELATIONS DE GENRE • ÉDUCATION PHYSIQUE • LIVRES DIDACTIQUES

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THE TEXTBOOK CONSTITUTES A BASIC PILLAR IN THE INTEGRAL FORMATION OF ITS interlocutors, whether students or teachers. In this study, the textbook is understood as a production that “serves to create information, transmitting and disseminating, with a more accessible language, scientific knowledge”; still, as a “vehicle carrying a system of values, an ideology, a culture” (Bittencourt, 2006, pp. 72-73, own translation).

The textbook is one of the most popular cultural products among the Brazilian public with access to school education (Fonseca, 2003). This type of material is considered a structured curriculum guide and a reference in teaching, learning or training mediation processes, used by teachers of basic education as a fundamental support in planning and pedagogical actions.

On this subject, Choppin (2004) points out that the textbook, as a teaching resource, assumes different characteristics within the school: referential, by reflecting a teaching program with themes and contents of important dissemination; instrumental, by incorporating teaching strategies to obtain disciplinary skills; ideological and cultural, as a means of transmitting the language, culture and values of the ruling class; and documental, as a didactic instrument of critical and reflexive perspective of the students. These characteristics denote the social function of the textbook as a complex and strategic cultural asset, potentially capable of contributing to the understanding of knowledge production/circulation mechanisms.

The fact that this material has been increasingly illustrated in the last decade has motivated the search for a better understanding of these discourses based on the analysis of images and their relationship with the verbal text in science and physics textbooks for elementary, high school and secondary schools. superior (Souza & Rego, 2018). When analysing textbook guides and call notices, the authors identified that not all guides express in detail the criteria adopted for analysing the images present in the works selected by the pelo Programa Nacional do Livro e do Material Didático [National Book and Didactic Material Program] (PNLD). Notwithstanding, the notices calling for editors present seven similar items as common eliminatory criteria for book illustrations (two items refer to the pedagogical aspects of the illustrations, directly related to the specific contents of the curricular component; the others are more generic and involve the guarantee of ethical, aesthetic and cultural aspects).

Images are visual discourses composed of plastic, iconic and linguistic elements. In this way, visual language constitutes a system of signs (as well as verbal language) in the transmission of messages. This means that “images are not the things they represent, they use things to talk about something else” (Joly, 2007, p. 84, own translation). In addition to the pedagogical function that images perform, they can also collaborate with certain worldviews, naturalization of ideas, concepts, principles, behaviours and aesthetics. In this sense, the representativeness of the diversity of the Brazilian population in textbooks contributes to the way users understand the role of different agents in society, as well as to the meanings that are being constructed from imagery sources. Thus, in contemporary society, the interpretation of images has gained a status similar to the ability to master writing, becoming a necessity that has been established for the majority of the population (Bueno, 2011). At the same time, textbooks are also taken as an object of investigation into issues involving curriculum and gender.

The gender category is constructed in PNLD public notices, sometimes based on citizenship or human rights criteria; in others, associated with women and related to what is considered feminine and masculine (Cardoso & Melo, 2021). Thus, the permanence of androcentrism and heteronormativity in the world of sport and school physical education, in a diverse society (Altmann, 2015), but with little training of students about diversity (Jaeger et al., 2019).

With regard to the representations of social gender conveyed in Portuguese language textbooks, regarding the approach taken on the social roles of genders and on sexuality, Marcuschi and Ledo (2015) found the prevalence of the stereotyped treatment of gender relations, although the insertion of texts that refer to female emancipation is already perceptible.

The conceptions of masculinities and/or femininities present in the discursive materiality of history textbooks demonstrate that the approach to historical knowledge adopted by the works has naturalized power asymmetries between historically and socially constructed masculinities and femininities (Ribeiro & Silva, 2020).

International studies conducted in the Basque Country show the underrepresentation of medieval women in elementary school textbooks, in addition to stereotypes and the absence of aspects directly related to their history (Castrillo et al., 2021). In high school history and philosophy textbooks used in Spain, it is possible to find images of women associated with the family environment and domestic tasks, while men are represented in a work context, usually in the exercise of public functions (Llorent-Bedmar & Cobano-Delgado Palma, 2014). In another survey carried out in the same country, Navajas (2014) analysed 115 textbooks from different areas, with the aim of measuring the presence and importance given to women in construction sites. The results indicate a very low presence of women (12.8%) in the works. These data express a gap, since the exclusion of female references weakens the social situation of women and favours the perpetuation of inequalities, not considering their contribution to human development and the construction of knowledge.

In other words, the formative importance of textbooks, added to the imminent proliferation of studies focused on image analysis, calls the attention of countless researchers. It is evident, therefore, that the studies turn to the images contained in textbooks, with a focus on the analysis of how certain social segments have been represented in schoolbooks from different areas; still others analysed quantitative data (Bittencourt, 2006).

Historically, sports practices have been the scene of disputes for new modes of existence, recognition and occupation of space (Altmann & Camargo, 2021). Occasionally, gender studies in physical education (PE), reflected in the literature and in the current regulations, are a necessity and a requirement for the development of a school, a corporal practice and a society capable of transforming models and relationships traditional practices and their possible implications (Lleixà-Arribas et al., 2020).

Female representation in sports

In view of the referenced educational policies, PE teacher's manuals need to be analysed, since "the body and gender relations are socially produced within school curricula" (Altmann, 2015, p. 24, own translation). Among the various thematic units that integrate the experiences in the area, we chose sport, as it stands out as a strong phenomenon of analysis of masculinities and femininities at school.

The participation and acceptance of women in modern sport is a recent social phenomenon. The first record of female participation in the Olympic Games of the Modern Era is from the year 1900, however women took 104 years to be 40.7% of the total number of athletes participating in an edition of the Olympic Games (XXVIII Olympiad in Athens, 2004: 4,306 women and 6,452 men) (Miragaya, 2007). This means that the history of women's inclusion in sport can be identified as a history of male power and domination, characterized by unequal roles, in which women played secondary roles.

The presence of women in sports, specifically in the Olympics, is a historical insertion process marked by countless struggles, generating major episodes of claiming equal rights during the 19th and 20th centuries. For Oliveira et al. (2008) this process was not as expressive in Brazil, even so it followed the pattern of prejudices and conquests observed in the world, producing great icons of the female struggle for sport. The Modern Olympic Games held in Rio de Janeiro, Brazil (Rio-2016), for example, were the edition with the highest number of female athletes participating, surpassing the London Olympics (2012). In 2016, almost half of the athletes were women (Brazil participated with 465 athletes, 209 of which were women).

Recently, the sports media has referenced the podiums achieved by women in high-level competitions, sometimes emphasizing how far they have advanced in territories traditionally dominated by men; however this phenomenon deserves to be analysed with greater attention. If sport represents a significant element for promoting greater visibility of women in the public space and if, throughout the history of national sport, female sporting talent has been projected, it should be noted that these achievements result much more from the individual effort of small groups than an effective national policy for the inclusion of women in sports and leisure activities (Goellner, 2006).

Not unlike society, female underrepresentation in sports practices is a recurring phenomenon in school activities (Altmann, 2015). In this context, we emphasize the use of images in the PE teacher's manual, focusing on gender and sport categories.

Women's sport is a privileged scenario for exposing bodies in contemporary society; when evidenced, they also educate other bodies, and are potentially inducers in the production of stereotypes and prejudices, both socially constructed concepts (Goffman, 1982). In this sense, we emphasize that the works of the PNLD must comply with certain guidelines, such as "Observance of ethical and democratic principles necessary for the construction of citizenship, respect for diversity and republican social life" (Ministério da Educação, 2018b, p. 43, own translation), aiming at the production of works free of stereotypes or prejudices of socioeconomic, regional, ethnic-racial, gender, sexual orientation, age, language, religious, disability condition, as well as any other form of discrimination or violation of human rights.

Conceptions about gender inequalities are part of the so-called "hidden curriculum", which, in our view, has a much more blatant function than its images can convey (Botelho & Neira, 2014). This aspect represents a hidden dimension of the curriculum, but a very powerful one for learning norms, values and social relations that are veiled and implied, and which are often transmitted (Devís et al., 2005), although the hidden curriculum can be equally formative in learning attitudes and social practices for the deconstruction of injustices. About these facts, we add that such structures are covered with inadequate conceptions regarding gender relations and other social inequalities.

The analysis of PE textbooks in Brazil is very scarce (Botelho & Neira, 2014), in addition, studies on the presence of female athletes in this type of curriculum material are rare: generally, the analyses address body image. In the study by Loro et al. (2021), the researchers claim that gender diversity is represented in the analysed Brazilian PE manuals; however, the results show ectomorph bodies, of white colour or race and without disabilities, perpetuating the invisibility of the diversity of bodies, colour or race and people with disabilities. In another study, González-Palomares, Altmann et al. (2015) analysed 929 photographs of textbooks for elementary and high school students published between 2006 and 2012. The researchers found a reproduction of hegemonic patterns that link the type of body practice to gender: men to sports and women to fitness activities and physical conditioning. People with disabilities are very little represented in sports: only 1.5%,

mainly men, in team sports (64.3%) or individual (28.6%), and in competitive contexts at the highest level of professionalism.

To analyse the athletes represented in Brazilian PE manuals, we referenced some previous studies carried out in Spain, which examined the presence of male and female athletes in the images of PE textbooks published in Spain for students between 6 and 12 years old (Moya-Mata & Ros, 2018; Ruiz-Rabadán & Moya-Mata, 2020) and from 12 to 16 years old (Sánchez-Hernández et al., 2017).

In the analysis of elementary school books, Moya-Mata and Ros (2018) analysed 41 images of professional athletes published by the publishing house Edelvives, linked to the Spanish Olympic Committee, finding that only 31.7% of the athletes represented are women.

Along the same lines, the investigation by Ruiz-Rabadán and Moya-Mata (2020) revealed an under-representation of female Olympic athletes, perpetuating male models as sports references. The female athletes were mainly Americans, without disabilities, who competed in the Summer Olympics, in individual sports, the sport par excellence being athletics, and the Olympic athlete with more presence was Nadia Comaneci.

Sánchez-Hernández et al. (2017) analysed the presence and recurrence of female and male athletes in 3rd and 4th year high school textbooks from two publishers, identifying the absence of female athletes in Serbal and the presence of only 15% in Teide. In the two publishing houses there is almost no recurrence, that is, the athletes usually appear only once. Once again, the absence of female sports references in Spanish compulsory schooling, from 6 to 16 years old, is confirmed.

Given the above, the objective of this article was to analyse the imagery references of female professional athletes represented in PE textbooks in elementary school I and II, between the years 2017 and 2018, intended for their teachers, in order to investigate whether they perpetuate models' men's sports models, or, on the contrary, make women's sports models visible.

Method and sample

The study is empirical and descriptive, as it is a systematic description of the studied reality as it is, without manipulating or changing it (Bisquerra, 2019), and comparative, since textbooks from different Brazilian publishers selected for the sample are compared.

Content analysis was used as a research technique (Neuendorf, 2017), defined by Bardin (1986, p. 29, own translation) as the “search through systematic and objective procedures to describe the content of messages – to obtain some indicators – quantitative or not – that allow inferring knowledge related to the conditions of production and reception of these”.

For Lombard et al. (2002), content analysis is especially appropriate for message analysis. Igartua (2006, p. 181, own translation) explains that this type of analysis “allows you to discover the DNA of media messages”. On the other hand, there are three fundamental properties attributed to content analysis: it is systematic, objective and quantitative (Wimmer & Dominick, 2011).

According to Lozano (1994, p. 142, own translation), it is systematic because “it is based on a set of procedures that are applied in the same way to all analysable contents”. It is objective because it implies that the researcher's particular idiosyncrasies or biases do not affect the results, so that when different people separately apply the same categories to the same sample, they can reach the same conclusions. And it is quantitative because, as Wimmer and Dominick (2011) clarify, its objective is to achieve the most accurate representation possible, assigning numbers to the different categories to subsequently process them statistically. In this sense, the images conveyed by PE textbooks for elementary school are our sampling and analysis units.

The sample consists of 68 photographs belonging to ten PE textbooks published in Brazil. The selection was intentional and/or for convenience. Books intended for elementary school teachers

(initial and final years) published between 2017 and 2018, produced by publishers approved in the PNLD (Ministério da Educação, 2017, 2018b) were analysed: Boreal, Terra Sul, FTD and Moderna (Table 1). The textbooks are organized into two volumes. Volume 1 is intended for 1st and 2nd year teachers, while volume 2 is for 3rd to 5th year teachers. The works intended for 6th to 9th grade teachers (single volume) were produced by Moderna and Terra Sul, based on Edital de Convocação n. 1/2018-CGPLI [Call Notice n. 1/2018-CGPLI] for the registration and evaluation process of didactic and literary works for the PNLD 2020 (Ministério da Educação, 2018b).

Table 1
Physical education textbooks from Brazil

| Publishing company | Title | Publication year | School level |
|--------------------|--|------------------|-----------------------------------|
| Boreal | Práticas corporais e a educação física: 1º e 2º ano | 2017 | Elementary school - initial years |
| | Práticas corporais e a educação física: 3º a 5º ano | 2017 | Elementary school - initial years |
| FTD | Encontros Educação Física, 1º e 2º ano: Manual do professor de educação física | 2018 | Elementary school - initial years |
| | Encontros Educação Física, 3º, 4º e 5º ano: Manual do professor de educação física | 2018 | Elementary school - initial years |
| Moderna | Práticas corporais Educação Física 1º a 2º ano: Manual do professor | 2017 | Elementary school - initial years |
| | Práticas corporais Educação Física 3º a 5º ano: Manual do professor | 2017 | Elementary school - initial years |
| | Práticas corporais Educação Física 6º a 9º ano: Manual do professor | 2018 | Elementary school - final years |
| Terra Sul | Manual do professor para a Educação Física: 1º a 2º ano | 2017 | Elementary school - initial years |
| | Manual do professor para a Educação Física: 3º a 5º ano | 2017 | Elementary school - initial years |
| | <i>Manual do professor para a Educação Física: 6º a 9º ano</i> | 2018 | Elementary school - final years |

Source: Authors' elaboration.

Instrument and variables

The instrument used for sample analysis, as can be seen in Table 2, is part of the category system designed by Moya-Mata and Ros (2018), in a previous study, in which they analysed images of female athletes in textbooks from PE to from the variables: year, gender, colour or race, nationality, type of olympic sport, practice environment, sport classification, sporting event and athlete's name.

Table 2
Coding system for analysing athletes' images

| Dimensions | Categories | Indicators |
|-------------------------|------------------------------------|------------------------------------|
| Athlete characteristics | Gender | Masculine |
| | | Feminine |
| | Colour or race | White |
| | | Brown |
| | | Black |
| | | Asian |
| Disability | With disability | |
| | Without disability | |
| Country | As many as there are in the sample | |
| Sport characteristics | Sport practice | As many as there are in the sample |
| | Sport classification | Individual |
| | | Collective |
| | | Adapted |
| | Sport event | Olympic Games |
| | | Paralympic Games |
| | | Other competitions |
| Training | | |
| | Not specified | |

Source: Authors' elaboration.

The category system is composed of two dimensions: athlete characteristics and sport characteristics. The athlete's characteristics dimension includes the variables: a) gender, difference between men and women that, socially constructed, can vary according to culture, determining the social role attributed to men and women and their sexual identities; b) colour or race, traditional and arbitrary division of human groups, determined by the set of hereditary physical characteristics (skin colour, head shape, hair type, etc.); disability, depending on the presence or absence of physical, mental or sensory limitation; and country, a space demarcated by geographic borders and endowed with its own sovereignty.

The characteristic dimension of sport corresponds to the sports represented in PE textbooks, defined by the variables: a) sport discipline, depending on the sport practiced by the athlete; b) sport classification, categorization of the sport according to whether it is performed individually, in groups or adapted; and c) sport event, carrying out sports modalities, each one subdivided into categories, in which titles are disputed with the presence of a cheering public.

Process and statistical analysis

Next, images and texts associated with female athletes were selected for a qualitative analysis, as well as a quantitative analysis of their prevalence, to discover what are the models of female Olympic sports and identify which sports they participate in. We remind you that, when analysing the female gender, we are at the same time analysing the male gender, as we understand that an analysis composed of both genders would be more appropriate for our case.

For the analysis of the images, those that portrayed a female and/or male figure in a sporting context were selected, identifying their name. Figures in which the athlete's name was

not mentioned were discarded, as well as those that were unrelated to the study sample. Then, the images and associated texts were selected and analysed qualitatively and quantitatively, to identify which sports models of male and female athletes are offered by PE manuals to teachers who work in elementary school.

The images were coded by the principal investigator, and the work was divided into several sessions to avoid errors due to exhaustion. The images were analysed by direct observation of the textbook. For data processing, the Statistical Package for Social Sciences program (SPSS® Inc., version 21.0, Chicago, IL, USA) for Windows was used. A univariate and comparative descriptive analysis between publishers was presented in percentages.

Results and discussions

Regarding the authorship of the analysed manuals, we obtained a female majority, with 14 female authors and 9 male authors. This finding refers to what Moura (2007) noted in the analyses he undertook: despite some changes regarding the female presence in the images of textbooks, female authorship still seeks greater male representation. As for illustrations, most are men (8 illustrators); there are only 4 illustrators. This fact may also reveal these dissonances in terms of female representation in sports. It should be noted that such findings help us to understand how the configuration of textbooks lacks other analyses that can demonstrate this naturalization, which is not restricted to the area of PE, extending to other disciplinary fields. In this sense, Scott (1995) alerts us to the need to be attentive to the naturalization of historical and social situations as timeless – in this case, the disparity of representations implicitly reveals the visibility of some to the detriment of others.

Then, based on the data found, the results and discussions are presented, unfolding of the analysis of the images referring to: gender, colour or race, disability, country, sport practice, sport classification, sport event and most represented athletes.

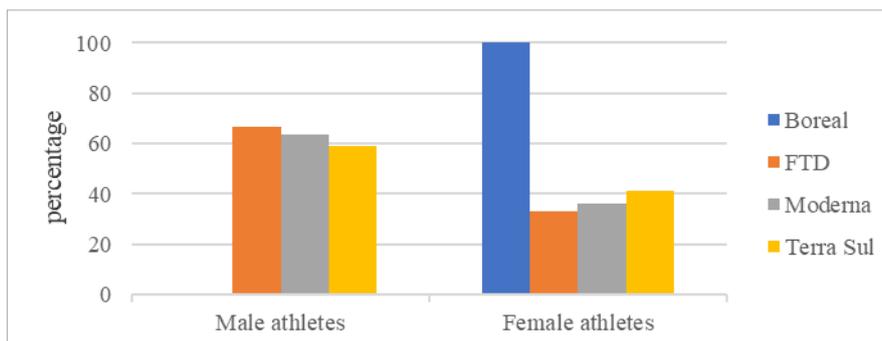
Regarding the results of the athletes represented, of the 68 images that make up the sample of sports references in PE textbooks for elementary education in Brazil, Boreal publishing house appears with 1 image (1.5%); the publisher FTD, with 3 images (4.4%); Moderna with 47 images (69.1%); and Terra Sul, with 17 images (25%). Therefore, Moderna is the publisher that most represents athletes in their textbooks, while FTD and Boreal publishers practically make them invisible and omit possible sports references. The discrepancy of percentages of this type of images, subsequently, will also influence the different levels of representativeness, sometimes contributing to the creation of stereotypes.

Gender

Descriptive analysis revealed that men make up the gender most represented in PE textbooks, with 42 images (61.8%), in relation to the female presence, with 26 images (38.2%).

As it is possible to observe in Figure 1, in the analysis of the images chosen by the publishers, we verified that, in three of the four publishing houses, more male than female athletes are represented. Publishers FTD, Moderna and Terra Sul represent more men than women: 2 images, 30 images and 10 images, respectively; while Boreal is the only publisher in which the representation of female athletes prevails, in its only image.

Figure 1
Gender of athletes in physical education textbooks



Source: Authors' elaboration.

Brazilian PE textbooks continue to represent the male gender to a greater extent. The representation of female athletes is very scarce, coinciding with what was observed in the studies by Moya-Mata and Ros (2018) and Ruiz-Rabadán and Moya-Mata (2020), which show that in elementary school manuals almost two thirds of the images represent male athletes.

The most significant results of male prevalence in the images are presented by Sánchez-Hernández et al. (2017), who found, for high school material, 100% of male athletes in the Serbal publishing house and 85% in the Teide publishing house. This reality presents a mismatch in the practice of sporting and professional merits and leaves girls and young people without a reference model to follow.

This under-representation of female athletes also occurs in images related to physical activity in educational material in Brazil (González-Palomares, Altmann et al., 2015; González-Palomares, Rey-Cao et al., 2015), despite the gradual incorporation of women in sports. It should be noted that, in a current study, a change in trend was identified, towards a more equitable representation of men and women through mixed groupings in the images of Brazilian books (Loro et al., 2021).

In view of the above, attention must be paid to the cultural elements that are vehicles for conceptions about genres, including textbooks, educational materials par excellence, since these concepts represent a set of “meanings of symbols and that limit and reduce its metaphorical possibilities, being expressed in religious, educational, scientific or legal doctrines, and makes fixed the binary opposition of the meaning of man and woman, male and female” (Scott, 1995, p. 86, own translation).

It is worth noting here that our findings provide materiality for the apprehension that regulations, by promoting unequal relations in sports participation in general – in this case, through different illustrations about the frequent male representation and female invisibility –, acquire different forms.

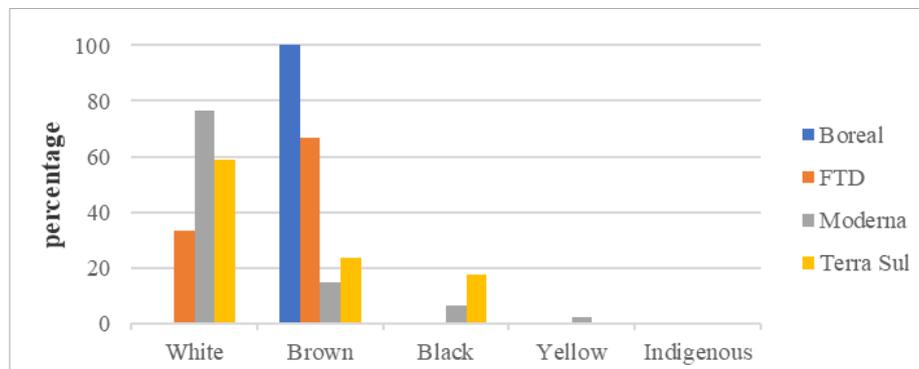
Colour or race

As for the colour or race of the athletes represented, white colour or race predominates, with 47 images (69.1%); colour or race brown follows, with 14 images (20.6%); black colour or race, with 6 images (8.8%); and Asian, with 1 image (1.5%).

By publishers, as shown in Figure 2, Moderna mostly represents the white colour or race, with 36 images (76.6%), followed by Terra Sul, with 10 images (58.8%). The brown colour or race is mainly represented by Boreal and FTD publishers, with 1 and 2 images, 100% and 66.6%, respectively. Black colour or race is represented only by publishers Terra Sul and Moderna, with 3 images each, 17.6% and 6.4%, respectively. The yellow colour or race is represented only by

publisher Moderna, with 1 image (2.15%). It is important to highlight the omission of indigenous colour or race in all publishers.

Figure 2
Colour or race of athletes in physical education textbooks



Source: Authors' elaboration.

The discrepancy of percentages of this type of images, subsequently, will also influence the different levels of representativeness, sometimes contributing to the creation of stereotypes. The greater representation of athletes of colour or white race in Brazilian textbooks coincides with the study by Moya-Mata and Ros (2018), in relation to the colour or race of Olympic athletes in Spanish PE textbooks. Thus, it also coincides with studies on the analysis of images in Brazilian PE textbooks, such as the study by Loro et al. (2021), which mainly shows bodies of colour or white race, and contrasts with the current legislative framework according to which didactic manuals are prepared.

The Instituto Brasileiro de Geografia e Estatística [Brazilian Institute of Geography and Statistics] (IBGE) (2013) presents the theme of classification of colour or race based on the results obtained by the Survey of Ethnic-Racial Characteristics of the Population (Pcerp) (2008), allowing a better understanding of the current classification system of colour or race. Since 2000, the IBGE has used five categories in surveys (in the order in which they appear in the questionnaire): white, black, yellow, brown and indigenous – which are also included in the 2010 Demographic Census (IBGE, 2013). In that year, the number of people who declared themselves black (black or brown) increased in Brazil, who constituted more than half of the population (50.7%). More recent data indicate that, in 2015, 53.9% of people declared themselves to be black or brown (Ministério da Saúde, 2017).

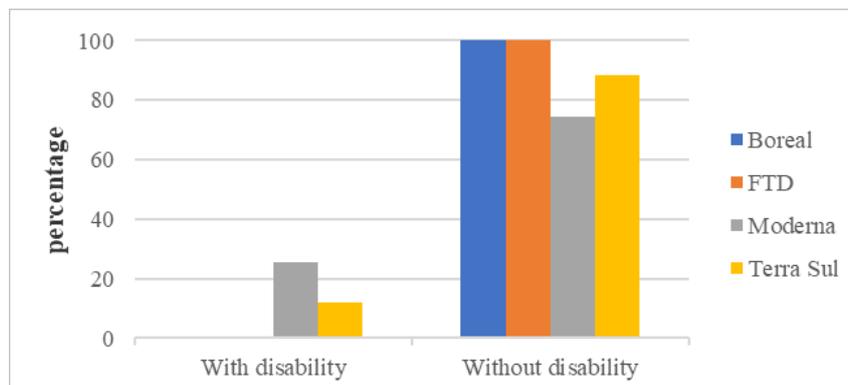
Information on race/colour is relevant to meet the competencies and principles of the Base Nacional Comum Curricular [National Common Curricular Base] (BNCC) (Ministério da Educação, 2018a). In undergraduate courses in PE, the theme begins to be researched and introduced in a procedural way, in relation to the culture of African countries and Brazilian culture itself, as well as regarding issues related to prejudice and discrimination (Rangel, 2006).

The deepening of this theme is a concern of professionals in the field of PE, although still in a modest way. As Lima and Brasileiro (2020) found, when situating the specificity of recent scientific productions (articles) that were related to Afro-Brazilian culture, the field of PE has approached ethnic-racial relations. The data indicate studies on cultural manifestations, sports in African ethnic groups, quilombola communities, legislation, multiculturalism and interculturality, with two predominant thematic fields: capoeira and racism in soccer.

Disability

Athletes without disabilities are more represented (54 images – 79.4%) than athletes with disabilities (14 images – 20.6%). Publishers Boreal and FTD do not include images of athletes with disabilities; only Moderna, with 12 images (25.5%), and Terra Sul, with 2 images (11.8%), contemplate this visibility (Figure 3).

Figure 3
Disability of athletes in physical education textbooks



Source: Authors' elaboration.

Female athletes with disabilities are less represented than male athletes with disabilities. Specifically, of the 14 images of disabled athletes, 10 images are of men – 71.43% (Gabriel Sousa, Daniel Wagner, Richard Whitehead, Acott Readon, Felipe Gomes, Cícero Nobre, Ronald Hertog, Jeroen Teeuwen, Flávio Reitz and Fernando Fernande) – and 4 images are of women – Mônica Santos, Aliona Halkina, Marlou Van Rhijn and Vanessa Daobry.

This underrepresentation of athletes with disabilities in Brazilian PE textbooks compared to athletes without disabilities coincides with the finding of Ruiz- Rabadán and Moya-Mata (2020), which proved that no female athlete with a disability was visible in PE textbooks Spanish people.

The lower representation of women athletes with disabilities compared to men (or the lack thereof) shows double discrimination based on disability and gender. This double discrimination could already be identified in Brazilian school textbooks, in which women with disabilities are represented in 7.7% of the images (González-Palomares, Rey-Cao et al., 2015) or 9.1% of the total analysed (Loro et al., 2021).

Contradictorily, the participation of women has grown exponentially since the 1984 Paralympic Games, when Brazilian athletes achieved a feat that would never be repeated in history: being the majority on the podiums and winning more medals (19) than men (9), totalling 5 gold medals, 12 silver and 2 bronze medals for women (Comitê Paralímpico Brasileiro, 2021).

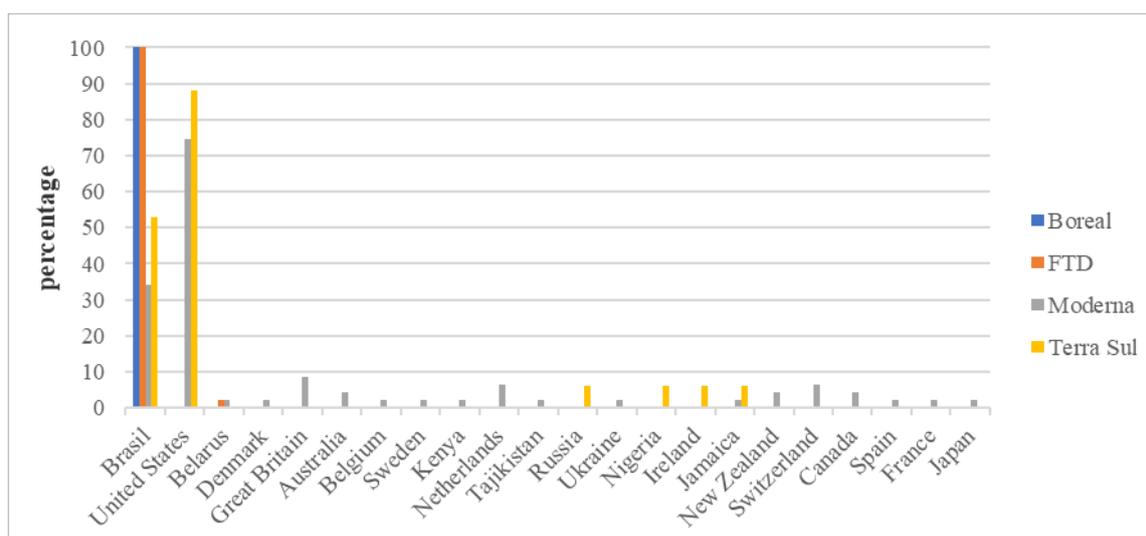
Given the above, the chance to give visibility to athletes who have marked the recent history of the Brazilian Paralympic Movement is lost: Ádria Santos (sprinter), Alana Maldonado (judo), Aline Rocha (cross-country skiing), Carol Santiago (swimming), Cátia Oliveira (table tennis), Débora Menezes (parataekwondo), Edenia Garcia (swimming), Jane Karla (archery), Jerusa Geber (sprinter) and Márcia Menezes (weightlifting). Athletes Márcia Malsar, Amintas Piedade, Anelise Hermany and Miracema Ferraz (athletics) and Maria Jussara Mattos (swimming) were on the podium more than once. Miracema was the first Brazilian athlete to win six medals in a single edition of the Paralympic Games. In terms of quantity, the largest number of women medallists occurred in Rio-2016, when 30 female athletes took the podium (including team sports) (Comitê Paralímpico Brasileiro, 2021).

Country

The country most represented by the athletes that appear in the images is Brazil, with 29 images (42.6%), followed by the United States, with 8 (11.8%), Great Britain, with 4 (5.9%), and Switzerland and the Netherlands, with 3 (4.4% each). As for the other countries, the representation is minimal: Jamaica, Canada, New Zealand and Australia, with 2 images (2.9% each); and Belarus, Denmark, Belgium, Sweden, Kenya, Tajikistan, Russia, Ukraine, Nigeria and Ireland with 1 image (1.5% each).

As shown in Figure 4, Brazil is the only country represented in all publishers, with 100% of the images in Boreal and FTD publishers. The second most represented country is the United States, on the Moderna and Terra Sul publishers. Moderna is the publisher that represents the most countries, starting with its athletes, with 19 countries and nationalities.

Figure 4
Country of athletes in physical education textbooks



Source: Authors' elaboration.

In the studies by Moya-Mata and Ros (2018) and by Ruiz-Rabadán and Moya-Mata (2020), the countries most represented in Spanish textbooks were analysed. Athletes from 35 different nationalities were identified, with the United States being the most represented country. Spanish athletes are almost invisible. The only Spanish Olympic athlete represented is Gemma Mengual (synchronized swimming).

The symbolic power of images plays a fundamental role in cultural transformation, and this sets up a possibility of reflection on a visibility capable of creating imaginaries referring to the constitution of Brazilian identities. In this sense, the majority presence of athletes from a given country needs to be problematized, since, according to Bignami (2002), identity is configured through the process of interaction between nations and, from the moment that certain standards are accepted as parameters of national identity, start to be produced and incorporated into individual behaviour or acquire image value.

Sport practice

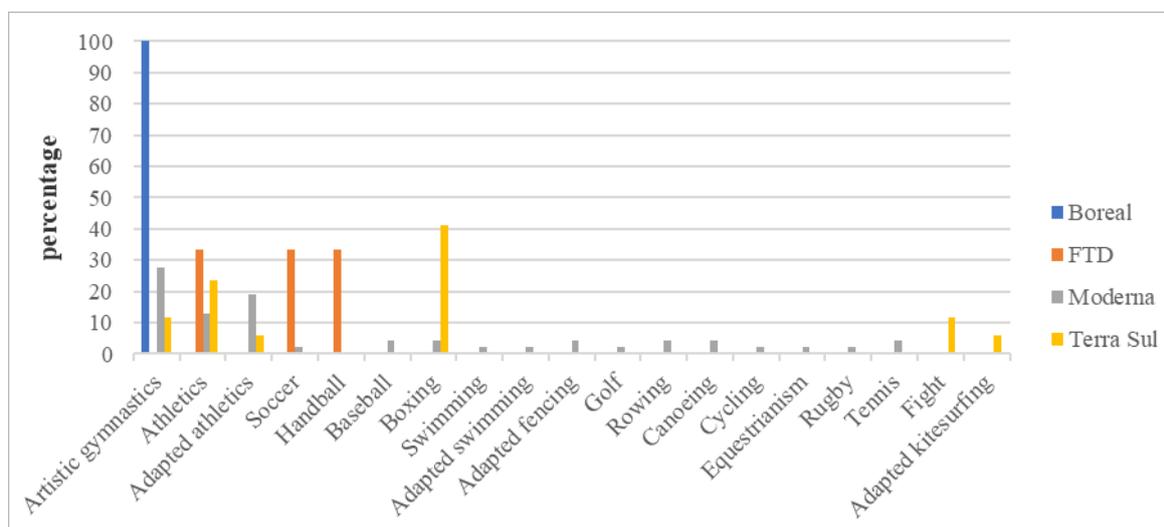
The main sports practices represented in PE textbooks are not adapted: they have 54 images (79.4%), compared to the adapted sports practices, with 14 images (20.6%). In non-adapted sports practices, the most represented sport is artistic gymnastics (16), followed by athletics (11) and

boxing (9). Represented by 2 images each, we find football, baseball, rowing, canoeing, tennis and fights; and, with 1 image, swimming, handball, rugby, golf, track cycling and horseback riding. Among adapted sports practices, the main sport represented is athletics (10 images), followed by wheelchair fencing (2 images) and adapted swimming and kitesurfing (1 image each).

Thus, as shown in Figure 5, it can be seen that artistic gymnastics is the non-adapted sport most represented both in the Boreal publishing house (1 image, 100%), as well as in the Moderna publishing house (13 images, 27.7%); the FTD publisher represents athletics, football and handball in the same proportion, with 1 image (33.3% each), and the Terra Sul publisher mainly represents boxing, with 7 images (41.2%). Both Moderna and Terra Sul publish a greater variety of sports practices: Moderna is the only publisher that represents athletes in baseball, swimming, golf, rowing, canoeing, track cycling, equestrianism, rugby and tennis; and publisher Terra Sul, in the fights.

Of adapted sports practices, the FTD publisher does not include any images in its textbooks, while the Moderna publisher includes images of athletics (9), wheelchair fencing (2) and swimming (1); and publisher Terra Sul, 1 image of athletics and 1 of kitesurfing.

Figure 5
 Sports practices in physical education textbooks



Source: Authors' elaboration.

These results differ from those found by Moya-Mata and Ros (2018) and Ruiz-Rabadán and Moya-Mata (2020), since, despite the low percentage, they represent adapted sports practices, contrary to what occurs in Spanish materials, in which such practices are not represented.

Regarding artistic gymnastics, the results do not coincide with previous Spanish studies, which point to athletics as the most represented sport (Moya-Mata & Ros, 2018; Ruiz-Rabadán & Moya-Mata, 2020; Sánchez-Hernández et al., 2017). However, they coincide with these previous studies in relation to adapted sports, since athletics is the most represented sport of Paralympic athletes in Brazilian textbooks. But, if we compare the results with books in Spanish secondary education, the images represented again differ when we relate to adapted physical activity, such as goalball (González-Palomares, Rey-Cao et al., 2015).

Although the most represented sports in Brazilian PE textbooks are artistic gymnastics and athletics, in the school context team sports predominate. Athletics is little disseminated in PE classes due to the infrastructure conditions of schools, lack of space and specific materials, lack of interest on the part of students and the institution in promoting it, little tradition of this sport and fragility in teacher training (Gemente & Matthiesen, 2017). Regarding the production

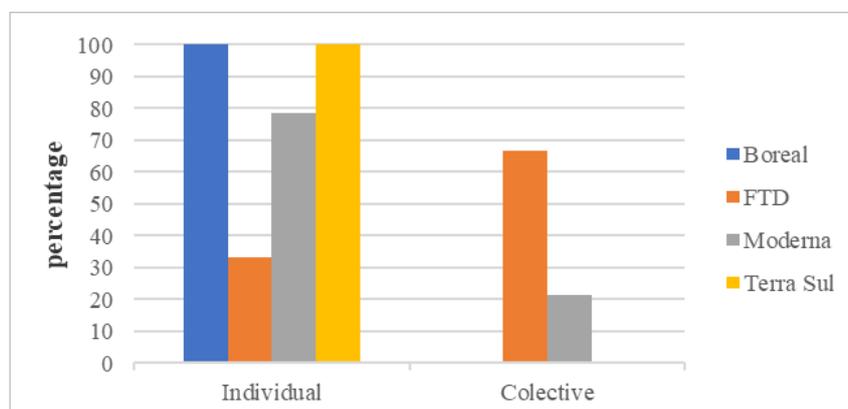
of knowledge about gymnastics at school, we can say that it is restricted, not being enough to base the practice of teachers and contribute to a change in the way they deal with gymnastics content (Oliveira et al., 2020).

Despite the impasses, the inclusive process of students with disabilities in PE classes in regular public schools in Brazil is under development (Castro & Telles, 2020). For these researchers, there are still major gaps for teachers and the school community, who face several difficulties, including precarious teacher training, little interpersonal interaction and limited architectural, instrumental and methodological accessibility.

Sports classification

The sports classification most represented are individual sports, with 56 images (82.4%), against 12 images (17.6%) representing team sports. In the case of publishers, Boreal exclusively represents individual sports; FTD mainly publishes team sports (66.7%); and Moderna, individual sports (78.7%), as well as the publisher Terra Sul (Figure 6).

Figure 6
Classification of sports in physical education textbooks



Source: Authors' elaboration.

These results coincide with studies by Moya-Mata and Ros (2018) and Ruiz-Rabadán and Moya-Mata (2020), according to which individual sports represent 92.3% of athletes' images. However, they do not coincide with previous studies on adapted physical activities represented in Brazilian textbooks, which are mainly collective 64.3% (González-Palomares, Altmann et al., 2015).

In the present study, we found that the representation of women practicing individual sports predominates in PE textbooks, with 23 images (88.5%), compared to 3 images (11.5%) of collective sports. Sport, as a social domain, is based on values such as performance and result and, sometimes, based on gender stereotypes, prevailing the cultural judgment of what are male or female practices (Melo et al., 2015). Sports modalities are culturally defined with predominantly male characteristics (soccer, weightlifting, skateboarding, hockey, shot put and hammer throwing), modalities with predominantly female characteristics (rhythmic gymnastics, synchronized swimming, dance, classical ballet, skating) and modalities with a more neutral (racing, basketball).

On this subject, the study by Melo et al. (2015) showed the existence of prejudice in relation to men who practice sports considered culturally feminine, depending on the degree of sports involvement, and that men and women present differences in these evaluations. Women (athletes or not) show less prejudice towards male athletes. Men apply the stereotype to that athlete who practices the most feminine or neutral sport, evaluating him as more negligent. This characteristic has a negative connotation (laziness/carelessness) when it comes to athletes. The study also revealed

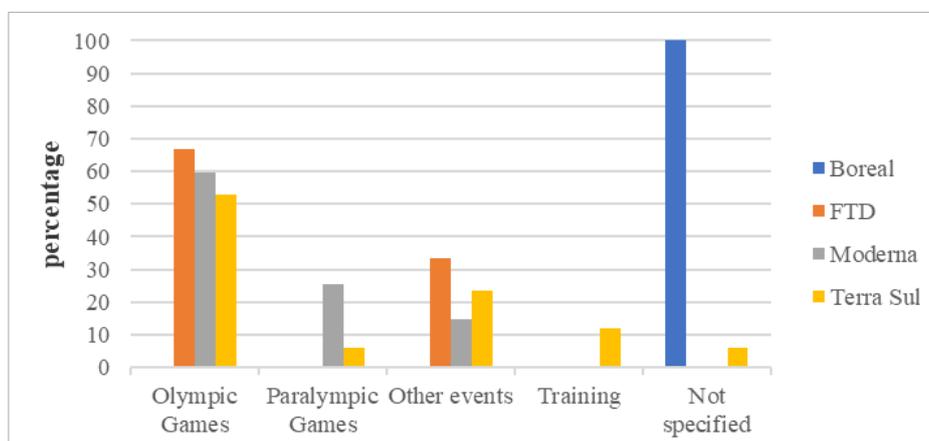
that, even though they are athletes, men tend not to abandon what was culturally apprehended, and they evaluate their peers with greater prejudice than women.

Sports events

The sporting events in which the athletes portrayed in the images appear are mainly the Olympic Games, especially the Olympic Games in Rio de Janeiro in 2016, with 39 images (57.4%); followed by the Paralympic Games (Rio-2016), with 13 images (19.1%); other international competitions, with 12 images (17.6%); and training and unspecified activities, with 2 images (2.9%).

As shown in Figure 7, by publishers, the Olympic Games are the most represented event in PE textbooks, with more than half of the images (FTD: 2 images; Moderna: 28 images; and Terra Sul: 9 images), with the exception by publisher Boreal, which presents only 1 image, without specifying the sporting event. The Paralympic Games are represented in two publishing houses: Moderna, with 12 images (25.5%), and Terra Sul, with 1 (5.9%); while training activities are represented only in Terra Sul, with 2 images (11.8%).

Figure 7
Sports event in physical education textbooks



Source: Authors' elaboration.

These results coincide with those found in studies by Moya-Mata and Ros (2018) and Ruiz-Rabadán and Moya-Mata (2020), in which all images refer to sports celebrated at the Summer Olympic Games, in different Olympic venues. We emphasize that in the sample images of this study the athletes are not represented only in the Olympic Games, but also in different types of events, such as the Paralympic Games, world championships, training sessions or others. Therefore, the variety of competitions is more represented than in the studies by Moya-Mata and Ros (2018) and Ruiz-Rabadán and Moya-Mata (2020), where it is found that athletes without disabilities are featured exclusively in Olympic Games; and athletes with disabilities, exclusively in Paralympic Games (González-Palomares, Rey-Cao et al., 2015).

The studies of Camargo (2018), specifically those related to the Olympic Games in Rio de Janeiro, insert the universe of sports at the intersection with the fields of study of gender and sexualities. By problematizing the public manifestation of the sexualities and sexual practices of professional athletes, it is observed how enunciations on this theme have provoked tension in a complex system of control of their own sexualities and that of others.

Most represented athletes

Finally, of all the athletes mentioned in PE textbooks in Brazil, collected in Table 3, the most represented is Flávia Saraiva (Brazilian artistic gymnastics athlete), with 3 references in Boreal, Moderna and Terra Sul; followed by Adriana Araújo (also in artistic gymnastics), with 2 references at Terra Sul publishing house; Usain Bolt (Jamaican athletics athlete), with 2 references in Moderna and Terra Sul; and Arthur Zanetti (Brazilian artistic gymnastics athlete), with 2 references in Moderna publishing house.

Table 3
Most cited athletes in physical education textbooks

| Boreal | FTD | Moderna | | | Terra Sul |
|----------------|-------------------|------------------------|-------------------|-------------------|---------------------|
| Flávia Saraiva | Wagner Domingos | Flávia Saraiva | Julius Yego | Yusuke Tanaka | Flávia Saraiva |
| | Marta Vieira | Joc Pederson | Marlou Van Rhijn | Shallon Olsen | Usain Bolt |
| | Henrique Teixeira | Robson Conceição | Felipe Gomes | Arthur Zanetti | George Horine |
| | | Joanna Maranhão | Cícero Nobre | Alexandra Raisman | Dick Fosbury |
| | | Gabriel Sousa | Vanessa Daobry | Elissa Downie | Flavio Reitz |
| | | Mônica Santos | Ronald Hertog | Oleg Verniaiev | Uhunoma Osazuwa |
| | | Aliona Halkina | Jeroen Teeuwen | Roger Federer | Diego Hypólito |
| | | Daniel Wagner | Genevieve Behrent | Rafael Nadal | Katie Taylor |
| | | Richard Whitehead | Rebecca Scown | Neymar | Sofya Ochigava |
| | | Scott Reardon | Gideoni Monteiro | Liam Adams | Adriana Araújo |
| | | Webb Simpson | Lukas Werro | Daniele Hypólito | Ronda Rousey |
| | | Rebeca Andrade | Simon Werro | Bryce Harper | Iuri Marajó |
| | | Nina Derwael | Eduardo Menezes | Mavzuna Chorieva | Fernando Fernandes |
| | | Pedro Luiz de Oliveira | Kélian Galletier | | Robenilson de Jesus |
| | | Alexander Russo | Max Whitlock | | Shakur Stevenson |
| | | Sofie Skoog | Isabela Onyshko | | Joedison Teixeira |

Source: Authors' elaboration.

The athletes represented in this study differ from the athletes most represented in the study by Moya-Mata and Ros (2018): Fanny Blankers-Koen (athletics), Wilma Rudolph (athletics) and Nadia Comaneci (artistic gymnastics); athletes who were legends in their modalities, with greater visibility of female athletes in elementary school material than in high school material in Spain (Moya-Mata & Ros, 2018; Sánchez-Hernández et al., 2017).

Specifically, it is noteworthy in this study that the most represented athlete is Flávia Saraiva, considering that in Brazil there has already been a ban on the practice of sports identified as inappropriate for the female “nature”. For this reason, female representation in sport is fundamental, as a positive reference in contemporary society. However, despite recent advances in participation and media coverage of women’s sport, sex and gender norms continue to influence media broadcasts in recent editions of the Olympic Games, regardless of medium, sport or country (Salido-Fernández & Muñoz-Muñoz, 2021).

Even though there have been advances in terms of the “entrance of women” in the field of sports, we noticed that Moderna and Terra Sul publishers presented a greater diversity of athlete

characters, both male and female, although the latter with less representation. We can infer that the placement of female athletes has grown, although they are still underrepresented in sports considered to be male dominated.

Some considerations

Based on the study carried out, we found that, in physical education manuals for elementary school I and II in Brazil, the predominance of images of male athletes, white or white, without disabilities, of Brazilian nationality, practitioners of individual sports (mainly artistic gymnastics) and the Summer Olympic Games.

The evident hegemony of images representing men of white colour/race not only makes women invisible in general, but also those of brown, black, yellow and indigenous colour/race, weakening the guarantee and deepening of the principles of equality, diversity and equity, which guide education policies by recognizing the demands of specific groups, in addition to acting to reduce the impact of social determinants.

This invisibility of female athletes in general and racial diversity, disability, sports or international competitions, particularly in teaching materials, confirms the triple discrimination that athletes suffer: for being a woman, for not having a white colour or race and for having a disability. Thus, the underrepresentation of female athletes in the school community contrasts with the idea that at this educational stage, values that favour attention to diversity, inclusion and equal opportunities should be promoted. Therefore, it is essential to make visible what is hidden and raise it to the collective conscience of the educational community, especially discrimination based on gender, which often happens in physical education classes.

In view of the above, the representation of men and women in the visual content of textbooks should be managed through the presentation of images that indicate parity, both in quantitative and qualitative aspects. We also highlight the importance of textbook analyses enabling the presence of social researchers on topics related to gender, race, ethnicity and social class, as the content conveyed does not detach from the social, cultural and political senses and meanings that it conveys are carriers.

We consider that the expansion of interest in research and studies regarding the teaching materials distributed to Brazilian schools greatly contributes to enunciating the advances and permanence of mistakes, as well as the invisibilities in the gender perspective, although we understand that, despite being timid, research on the topic will always constitute a step forward in contributing to the training of Brazilian teachers. Thus, considering school physical education, the study and references (imagery and text) of sports in a non-professional context are also relevant for future work.

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Note on authorship

The authors participated in all stages of design and writing of the article.

Data availability statement

The data underlying the research text are informed in the article.

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