

# Gender stereotypes in physical education: state of the art and future perspectives in primary school

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## Abstract

**Background and Study Aim** Given the recent mandate by the Budget Law 2022 for compulsory two hours of physical education (PE) in IV and V classes of Italian primary schools, understanding the dynamics of gender stereotypes during movement activities becomes crucial. This review aims to summarize the scientific evidence of the gender gap in PE lessons and identify barriers to female participation in movement activities.

**Material and Methods** The methodology employed was a systematic literature review guided by the PRISMA 2020 guidelines. The literature search was conducted in April 2023, utilizing a range of databases including Web of Science and Scopus. The search strategy applied MeSH terms and text words, connected by AND: “gender stereotypes” OR “gender gap”, “PE” OR “physical education” OR “school” OR “children”. Additionally, relevant articles were manually selected from Google Scholar to supplement the database findings. The inclusion criteria were centered on studies within the school context. Only articles published in English within the time frame of 2012 to 2023 were considered. Exclusion criteria ruled out conference proceedings, literature reviews, articles published before 2012, and non-English language publications.

**Results** Thirteen items met the inclusion criteria. The main barriers included personal beliefs of pupils towards sporting activities, particularly highlighting concerns from the female gender. Other significant barriers were attitudes of teachers and the perpetuation of gender stereotypes in PE textbooks. Several interventions were conducted, primarily focused on co-educational methodologies. These interventions proved effective in dismantling some gender stereotypes.

**Conclusions** The results demonstrated the presence of gender stereotypes during PE lessons. There was a need to improve teacher training, which was perceived as inadequate to work on gender inequality from primary school onwards.

**Keywords:** perceptions, gender gap, teaching methods, strategies, barriers

## Introduction

In recent decades, the pursuit of gender equality has become a cornerstone of educational reform worldwide, reflecting a broader commitment to social justice and equitable opportunities for all students. Despite considerable progress, disparities persist, particularly in the realm of school education.

The contrast of the gender gap in school education is one of the main priorities on which education policies have been focusing in recent years, as it significantly affects learning outcomes [1]. This concern is directly aligned with the objectives of the 2030 Agenda for Sustainable Development. Specifically, Goals 4 and 5 of the UN Global Agenda 2030 emphasize the importance of providing quality, equitable, and inclusive education for all and achieving gender equality, respectively. Goals 4.1 and 4.5 call for the elimination of gender disparities in education by 2030, ensuring that every child has access to quality and equitable education. Similarly, Goal 5.1 focuses on ending discrimination against women and girls as a fundamental step

towards equality. However, the attainment of these objectives faces significant challenges, exacerbated by the COVID-19 pandemic, which has adversely affected educational systems and widened existing inequalities [2, 3]. This backdrop underpins the critical examination of gender stereotypes in physical education within primary schools, spotlighting both the current state of affairs and future prospects for gender equality in education.

Gender stereotypes significantly influence individuals' perceptions and behaviors. These stereotypes are normalized and embedded in social practices from an early age, even before a child is born, illustrated by the common practice of assigning pink or blue colors based on the child's gender. As a result, children internalize gender distinctions through socialization, forming their gender identity [4]. This process affects all aspects of their lives, including their educational experiences. Physical education (PE) is a domain where the gender gap is particularly pronounced. PE has historically perpetuated notions of hegemonic masculinity [5], often sidelining girls either directly or through self-exclusion from activities. It's noteworthy that

the discipline was initially introduced in schools as 'gymnastics,' exclusively for boys to prepare for military service. Only subsequently was it made available to girls and gradually adopted a more inclusive, educational focus [6, 7].

Historically, sports were deemed unsuitable for women, who were traditionally seen as caregivers, focused on domestic responsibilities. Despite this, an increasing number of women have shown interest in sports over time. Nonetheless, the sports sector remains characterized by significant gender inequalities, with men's participation and sports receiving more economic and cultural recognition. According to the World Health Organization [8] and other research [9], women tend to be more sedentary and less active than men. Typically, women engage more in non-competitive, health-oriented activities, such as gym workouts. This shift has the potential to mitigate gender disparities by blending traditionally masculine traits with those traditionally feminine.

Schools, as institutions, often appear ill-equipped to counteract the mechanisms that foster gender inequalities [10]. They are frequently criticized for systematically producing and reinforcing disparities [11]. One of the most visible manifestations of this issue within educational settings is the perpetuation of stereotypical gender roles, notably through sexism in textbooks. Such materials frequently emphasize traditional roles, casting women primarily as mothers and caregivers, and men as the economic providers for their families [12]. Moreover, teachers may unintentionally propagate gender stereotypes through their teaching practices and content, affecting the quality of instruction in subjects like physical education (PE). Historically, PE instruction has disproportionately favored boys, to the detriment of girls, who often report decreased interest and enjoyment in PE classes [11]. This discrepancy extends beyond the classroom, influencing daily life activities where females tend to be less physically active compared to males.

Considering that attitudes and habits formed during childhood significantly shape behaviors and choices in adulthood, addressing gender stereotypes in PE from the earliest stages of education, starting with pre-school and early primary classes, becomes imperative. Doing so can begin to dismantle the entrenched biases that contribute to gender disparities in physical activity and beyond.

In Italian primary schools, until the 2021/2022 academic year, the teaching of Physical Education (PE) was delegated to generalist teachers. According to several studies conducted in recent years [13, 14], these teachers did not feel adequately prepared to conduct PE lessons, potentially leading to diminished attention to gender policies due to concerns over the content and modalities of a PE

lesson. From the academic year 2023/2024, only for Classes V and IV, PE teaching has been assigned to specialist teachers with a master's degree in sports science [15]. This change was made in recognition of the generalist teachers' insufficient competence in promoting children's health and well-being through movement.

#### *Hypothesis and Purpose*

Our hypothesis (H1) posits that gender stereotypes remain prevalent in the school context, manifesting themselves during PE lessons. This assumption is based on the observation that the importance of PE in the overall development of children has not been fully acknowledged. Historically, PE was considered a lesser subject, taught by generalist teachers who received general training for all subjects and thus lacked specific expertise in PE.

The purpose of this review is to summarize the scientific evidence demonstrating the presence of the gender gap phenomenon during PE lessons and to identify the barriers that particularly hinder female participation in movement activities. Additionally, it aims to identify variables that should be considered to dismantle this phenomenon and provide actionable guidance for both generalist and specialist teachers responsible for PE in primary schools.

## **Materials and Methods**

#### *Information Sources*

The literature search was conducted in April 2023, utilizing various databases and sources: Web of Science; Scopus; Google Scholar (for manual selection of articles). Additional sources included manually selected articles via Google Scholar.

#### *Eligibility Criteria*

*Inclusion Criteria:* Studies were included if they focused on the school context, analyzed teachers' and pupils' perceptions of gender stereotypes in PE, evaluated interventions aimed at breaking down gender stereotypes in PE, and analyzed variables that may influence the reproduction of gender stereotypes in PE. Only publications in English and those published from 2012 to 2023 were considered.

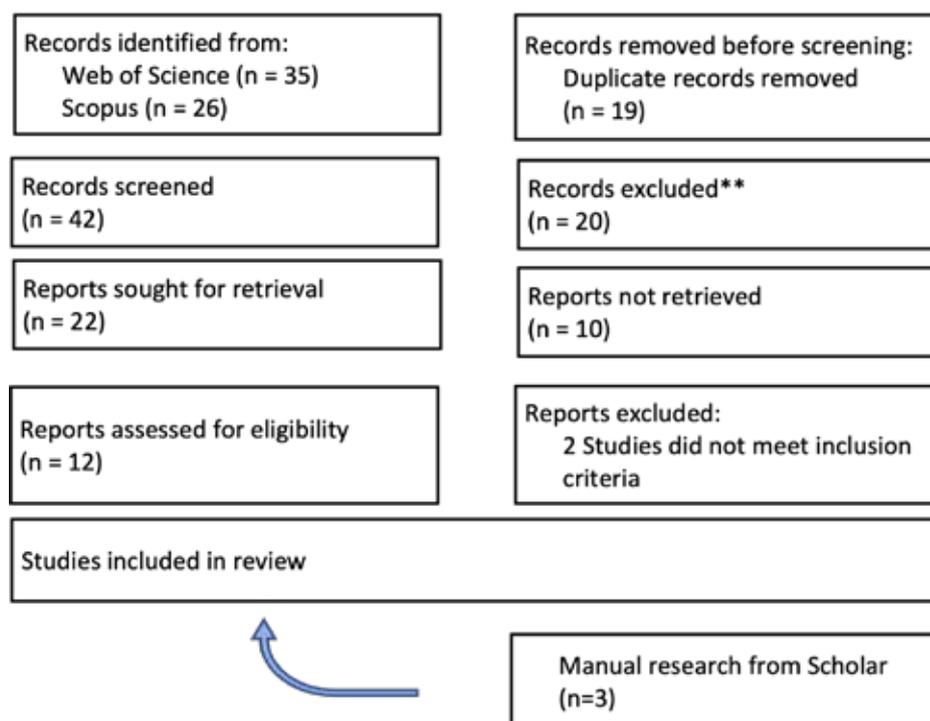
*Exclusion Criteria:* Exclusions were made for publications in conference proceedings, literature reviews, articles published before 2012, and non-English language articles.

#### *Search Strategy*

The search strategy employed MeSH terms/text words combined with AND/OR operators: "gender stereotypes" OR "gender gap", "PE" OR "physical education" OR "school" OR "children".

#### *Selection Process*

The selection process was guided by the PRISMA 2020 flowchart to decide whether a study met the inclusion criteria (Figure 1). This involved screening



**Figure 1.** PRISMA 2020 Flowchart Illustrating the Study Selection Process

each record and retrieved report for eligibility, with details of the process to be further specified.

*Data Items*

*Outcomes Sought:* Data were sought for outcomes related to the presence of gender stereotypes during PE lessons, barriers hindering female participation in movement activities, and effective interventions breaking down gender stereotypes.

*Other Variables:* Data were also sought for variables such as participant characteristics, intervention details, and study settings. Assumptions were made for any missing or unclear information, to be further specified.

**Results**

A search in the Scopus and Web of Science databases yielded a total of 61 articles matching the search criteria. After the removal of 19 duplicates, 42 articles remained for further analysis. Screening of titles and abstracts for relevance to the inclusion criteria led to the exclusion of an additional 20 articles. Full-text review of the remaining 22 articles identified 2 more articles that did not meet the inclusion criteria. Additionally, 3 articles from Google Scholar were included in the study. Consequently, a final sample of 13 relevant articles was identified for analysis, as detailed in Table 1.

**Table 1.** Gender stereotypes during PE classes.

Sources	Aim	Design	Sample	Tools and intervention	Results
Cárcamo et al. [9]	To understand the gender beliefs, value and participation of Colombian boys and girls in PE.	Qualitative	30 pupils (50% M; 50% F; age 8-10) of primary school	Interview	Gender stereotypes were still present in PE. Topics were beliefs on sports ability, intrinsic and extrinsic motivation, kind of sports, kind of activities preferred.
Gubby [25]	To understand if mixed-sports such as korfbal could provide an opportunity for successful mixed PE.	Qualitative	Junior korfbal players (aged 11-13) of primary school	Interview	Korfbal seemed to reduce the gender gap.

**Table 1.** (Continued)

Sources	Aim	Design	Sample	Tools and intervention	Results
López-Morales et al. [17]	To investigate how teachers perceived their teaching on gender equality during their PE.	Qualitative	191 PE secondary teachers in Spain	12 questions	PE teachers considered they had proper co-educational behaviour (regarding gender equality).
Martin et al. [16]	To investigate the barriers girls face during PE classes and the benefits of an activist approach on gender issue.	Experimental	20 girls and 28 boys (age 10 -12) and PE teachers of primary school	Focus group, interviews, specific activities	Several barriers were identified focus on the male dominance in games. The programme led to an improvement in the girls' participation.
Martínez et al. [26]	To test the effects of co-educational physical education in improving students' gender beliefs.	Quasi-experimental	91 primary school pupils (age, 11.5 ± 0.7)	Didactic intervention of 4-Colpbol sessions, 2 questionnaire.	The intervention was useful to promote gender equality in PE.
Mateo-Orcajada et al. [19]	To establish differences in gender stereotypes in sport among teachers and trainers.	Qualitative	127 PE teachers and trainers	CEGAFD	The gender stereotypes in trainers and teachers were still present.
Moya-Mata et al. [23]	To analyze the link between gender issue and textbooks of PE in primary school.	Qualitative	34 PE textbooks (Spain)	SAIMEF	PE textbooks reflected gender stereotypes.
Moya-Mata et al. [24]	To analyze the existence of gender stereotypes in PE Brazilian textbooks.	Qualitative	10 PE books containing 1327 images (Brazilian)	SAIMEF	PE textbooks reflected gender stereotypes.
O'Reilly et al. [27]	To investigate the effect of a Girls Active program on girls during PE classes.	Experimental	46 (EXP) and 58 (CON) girls (age, 12-15) from secondary school	Focus group and interviews , Girls Active program	Girls Active was useful to promote PE.
Peterson et al. [22]	To assess physical educators' (N = 162) ability and performance expectations, attributions, and attitudes toward overweight and non-overweight students.	Qualitative	162 PE teachers	Students' photos, questions on ability and performance expectations, Fat Phobia Scale.	PE teachers had lower ability expectations for overweight students than for non-overweight.
Preece and Bullingham [4]	To explore gender stereotypes and their impact upon perceived roles and practice of PE teachers.	Qualitative	21 PE teachers	An online story	Teachers' perceptions largely conformed to typical gender stereotypes.
Vera et al. [21]	To design a Spanish instrument to measure gender stereotypes in PE.	Qualitative	73 primary school students	An ad-hoc questionnaire (24 items + 5 dimensions)	There were prejudice and stereotypes in PE classes related to gender. The tool was valid and reliable.

Xiang et al. [28]	To investigate the presence of gender stereotypes about running during PE.	Qualitative	32 boys and 114 girls of primary school	Ad hoc questions; Run for Your Life program	Running was perceived to be a gender-neutral activity.
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CEGAFD, gender beliefs and stereotypes towards physical activity and sport; CON, control; EXP, experimental; SAIMEF, Physical Analysis Images Analysis System

## Discussion

The results of the present study demonstrated the persistence of gender stereotypes in the school context during PE lessons. The stereotypes were primarily derived from personal beliefs on the part of the pupils with regard to sports activities. Cárcamo et al. [9], through qualitative research, sought to understand the gender beliefs, value and participation of Colombian boys and girls in PE lessons and concluded that gender stereotypes were still present. Their findings reveal a prevailing perception of male superiority in sports, with most students attributing higher performance to males, except for a minority who believe abilities depend more on individual characteristics and task complexity. Additionally, the study notes differing motivations between genders, with females placing a higher value on psychological well-being from PE. Sports preferences were also gendered, with traditional “masculine” and “feminine” categorizations for activities like football and volleyball, respectively. The research underscores the need for educational strategies that promote gender equality, suggesting adjustments in activity selection and space usage to provide balanced experiences for all students.

Another critical aspect discussed was the barriers to participation in PE lessons, as perceived by females. These barriers included a self-perceived lack of skill, particularly in invasion games; the dominance of boys in activities and the assignment of passive roles to girls; the prominence of male-centric sports in media; the pressure felt by girls when making mistakes; and a lack of self-criticism among boys [16]. To address these perceptions, Martin et al. [16] devised a protocol incorporating two teaching units focused on volleyball and colpbol—comprising six volleyball sessions to explore the barriers, interests, and motivations of girls in PE, followed by nine colpbol sessions implementing an ‘activist phase’ with reflective spaces aimed at enhancing girls’ empowerment and fostering communication between teachers and pupils.

For effective application of these strategies, teachers should consider: 1) selecting and adapting game content to reduce the emphasis on physical contact or activities that require prior knowledge, thereby making participation less daunting; and 2) creating opportunities for reflective discussions. Training for teachers is essential for the successful

implementation of this approach. Adopting these practices can help schools move away from perpetuating hegemonic masculinity, ensuring a safer and more positive learning environment for all students.

The third aspect addresses the perceptions and beliefs of primary and secondary school teachers regarding gender stereotypes in PE, as well as the adequacy of their training to address this issue in practice. On one hand, a subset of teachers believes they employ teaching methods that avoid perpetuating these stereotypes. They report not holding higher expectations for male students, employing inclusive language, and providing examples of both male and female athletes in their lessons [17]. On the other hand, a significant number of teachers have expressed a lack of confidence in their training concerning the most effective methodologies to counter gender inequality in PE. This highlights a crucial need for enhanced training programs, especially considering that many educators rely on self-directed learning to fill these gaps.

The REFLECT program, highlighted in the literature, was designed to enhance secondary school teachers’ competences in reflective co-education [18]. However, research by Mateo-Orcajada et al. [19] indicated that gender stereotypes persist among PE teachers, particularly among the older cohort. This finding is in line with the study by Preece and Bullingham [4], which observed that PE lessons often mirror prevailing stereotypes: female teachers were of the opinion that males receive preferential treatment in sports, to the detriment of females, while male teachers pointed to developmental differences as a basis for this disparity.

A recent narrative review [20] has highlighted the profound influence of teachers on female students’ dissatisfaction in PE, especially in programs that predominantly feature traditional sports. Similarly, Vera et al. [21], by validating a questionnaire designed to explore the existence of gender stereotypes in PE classes, affirmed the continuance of such stereotypes. They underscored the critical need to challenge and change sexist attitudes among educators. Further, Peterson et al. [22] investigated PE teachers’ expectations, attributions, and attitudes, with a particular focus on how these are shaped by the gender and weight of the students. Their research revealed that teachers generally have lower expectations for overweight students’

abilities, with this bias being more pronounced towards female students. This body of evidence calls for immediate action to address and rectify the misconceptions prevalent among PE teachers.

A significant barrier in the fight against gender stereotypes in sports and physical education (PE) is their perpetuation in educational textbooks. Moya-Mata et al. [23] revealed that textbooks used in Spanish primary schools depict a stereotypical portrayal of sports, characterized by a predominant representation of male sports figures. Activities such as orienteering were predominantly associated with males, while climbing was linked with females. The study suggests a need for textbooks to present role models that challenge these gendered expectations. Reflecting on the content of textbooks could foster more egalitarian and co-educational practices among students. In subsequent research [24], Moya-Mata et al. found similar trends in Brazilian textbooks, where combat sports were typically assigned to males and individual practices like gymnastics to females. These findings underscore the importance of educators actively working to counteract the promotion of hegemonic male sports models in both primary and secondary education.

Various innovative protocols have been successfully employed to tackle gender stereotypes in PE, yielding positive results towards narrowing the gender gap. These include korfbal sessions, colpbol, 'girl active', and 'run for your life'. Gubby [25] highlighted korfbal, a sport akin to basketball originating from the Netherlands, known for promoting gender equality through its mixed-gender teams and gameplay that ensures a balanced competition between genders. Martinez et al. [26] found that a co-educational intervention using colpbol effectively shifted students' gender perceptions, promoting more equitable views. O'Reilly et al. [27] introduced the 'girl active' initiative in secondary schools, underscoring the significance of teachers engaging with adolescent girls' perspectives to dismantle prevailing gender stereotypes, including the myth of girls' disinterest in sports. This calls for schools to enhance support for teachers in facilitating such discussions. Xiang et al. [28] reported on the 'run for your life' program, a running activity in PE that was deemed gender-neutral by both boys and girls, fostering increased interest and participation among students.

Teachers are instrumental in either perpetuating or dismantling gender stereotypes in physical

education (PE) [29]. The effectiveness of their role hinges on their teaching approach and the thoughtful selection of content to foster a quality, inclusive educational environment. It's crucial for teachers to engage in active listening and seek creative alternatives, including content adaptations or variations, to promote inclusive education practices. The introduction of PE specialist teachers, with their targeted university training in sports sciences [30-32], represents a significant step forward compared to the more generalized approach of generalist teachers. Nonetheless, with generalist teachers still responsible for delivering PE in the early years of primary education (classes I, II, and III), there is a clear need for enhanced training and awareness initiatives for these educators.

Future research should aim to explore teachers' perceptions of gender equality and the extent to which their teaching practices in PE reflect gender stereotypes. This includes comparing the approaches of generalist and specialist teachers in primary schools and examining children's perceptions of their teachers' methods and views on gender equality within PE lessons.

## Conclusions

This study has illuminated the enduring presence of gender stereotypes in physical education (PE) within both primary and secondary educational settings. Key barriers include pupils' personal beliefs towards sporting activities—with notable emphasis on female students' perceptions—the attitudes of teachers, and the perpetuation of these stereotypes through PE textbooks. Notably, the implementation of several protocols, such as colpbol, korfbal, and running programs, has been effective in fostering a more inclusive environment. These sports, by virtue of their rules and adaptations, do not ascribe to traditional gender norms and thus promote inclusivity.

However, a significant challenge remains: many educators report a lack of adequate training to effectively address gender stereotypes in PE. This underscores an urgent need for educational institutions to offer comprehensive resources and materials to support teachers in this critical area. The findings from the reviewed studies suggest that coeducation represents the most effective strategy for overcoming gender biases and fostering an equitable and inclusive PE environment.

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