Journal of Sport and Health Research 2025, 18(1):91-106

Arenas, D; Vidal-Conti, J; Muntaner-Mas, A. (2025). Correlation between the use of the Sport Education model and gender stereotypes in physical education teachers. *Journal of Sport and Health Research.* 18(1):91-106. https://doi.org/10.58727/jshr.113280

Original

CORRELACIÓN ENTRE EL USO DEL MODELO DE EDUCACIÓN DEPORTIVA Y LOS ESTEREOTIPOS DE GÉNERO EN MAESTROS DE EDUCACIÓN FÍSICA

CORRELATION BETWEEN THE USE OF THE SPORT EDUCATION MODEL AND GENDER STEREOTYPES IN PHYSICAL EDUCATION TEACHERS

Diego Arenas[1]; Josep Vidal-Conti[1]; Adrià Muntaner-Mas[1-2]

[1]*GICAFE "Physical Activity and Exercise Sciences Research Group", Faculty of Education, University of the Balearic Islands, 07122 Palma, Spain.*

[2]*PROFITH "PROmoting FITness and Health Through Physical Activity" Research Group, Sport and Health University Research Institute (IMUDS), Faculty of Sport Sciences, University of Granada, 18011 Granada, Spain.*

Correspondence to: **Diego Arenas**
University of the Balearic Islands
Cra. Valldemossa Km. 7.5, Palma (Spain)
Email: d.arenas@uib.cat

Edited by: D.A.A. Scientific Section Martos (Spain)

editor@journalshr.com

Received:27/01/2025
Accepted:21/05/2025

Journal of Sport and Health Research 2025, 18(1):91-106

CORRELACIÓN ENTRE EL USO DEL MODELO DE EDUCACIÓN DEPORTIVA Y LOS ESTEREOTIPOS DE GÉNERO EN MAESTROS DE EDUCACIÓN FÍSICA

RESUMEN

Este estudio examinó la correlación entre el uso de características de la Educación Deportiva (ED) y los estereotipos de género en maestros de educación física (EF) de primaria, comparando a quienes utilizaban el modelo frente a los que no. Se utilizó un diseño transversal que incluyó a 85 maestros de EF (44,71% mujeres; edad media = 42,39 años, DE = 6,82). Se administraron dos cuestionarios para evaluar el uso de la ED y los estereotipos de género. La correlación de Spearman analizó las asociaciones entre las características de la ED y sus estrategias pedagógicas con los estereotipos de género, mientras que la prueba U de Mann-Whitney comparó los estereotipos de género entre los maestros que utilizaban la ED y los que no. Solo algunas características de la ED y sus estrategias pedagógicas (temporada, festividad, promoción de valores positivos) mostraron una débil correlación negativa con los estereotipos de género. No se encontraron diferencias significativas respecto a los estereotipos de género entre los maestros de EF que utilizaban la ED y los que no. En resumen, este estudio indica que el uso de la ED por parte de los maestros de EF (por sí sola) no está positivamente correlacionado con la reducción de estereotipos de género en EF.

Palabras clave: modelos pedagógicos; educación primaria; instructores; sexo; escuelas.

CORRELATION BETWEEN THE USE OF SPORT EDUCATION MODEL AND GENDER STEREOTYPES IN PHYSICAL EDUCATION TEACHERS

ABSTRACT

This study examined the correlation between the use of Sport Education (SE) features and gender stereotypes in primary school physical education (PE) teachers, comparing those who reported using and not using SE. A cross-sectional design included 85 PE teachers (44.71% female; mean age = 42.39, SD = 6.82). Two questionnaires were administered to assess SE use and gender stereotypes. Spearman's correlation analyzed the associations between SE features and their pedagogical strategies with gender stereotypes, while the Mann-Whitney U test compared gender stereotypes among teachers using and not using SE. Only a few SE features and their pedagogical strategies (season, festivity, promotion of positive values) showed a weak negative correlation with gender stereotypes. No significant differences in gender stereotypes were found among PE teachers who reported using and not using SE. In sum, this study indicates that PE teachers' use of SE (solely) is not positively correlated with reducing gender stereotypes in PE settings.

Keywords: pedagogical models; primary school; instructors; sex; school.

Journal of Sport and Health Research 2025, 18(1):91-106

INTRODUCTION

In recent years, there has been a growing interest in investigating the presence of gender inequalities in physical education (PE) (Guerrero & Guerrero Puerta, 2023). This increased attention shows a growing awareness of how much PE experiences can affect views and attitudes about gender stereotypes (Solmon, 2014). Gender stereotypes are socially constructed beliefs about appropriate traits and roles for girls and boys, shaped by cultural norms of masculinity and femininity (Stewart et al., 2021). In this context, PE has been a subject associated with gender biases, often relegating certain physical activities to stereotypical associations with masculinity or feminity (Tischler & McCaughtry, 2011). Thus, there have emerged theories such as hegemonic masculinity, which is a relational concept -that serves as the dominant paradigm- supporting inequitable relations among girls and boys (Connell & Messerschmidt, 2005). This theory is associated with the construction of attributes like strength, speed, aggression, competitiveness, and all those characteristics frequently shaped by societal influences (Tischler & McCaughtry, 2014). Thus, boys -especially those with higher skills - are positioned in a dominant role compared to girls within the PE field (Niemi, 2010).

In this sense, some teachers may adopt a passive role, unintentionally perpetuating gender biases within PE settings (Fagrell et al., 2012), and may rely on traditional methodologies that reinforce students' expressions of masculinity (Curtner-Smith et al., 2020). These gender biases could influence teachers' attitudes and decision-making in PE (Valley & Graber, 2017). Recent qualitative research indicates that teachers with neutral or negative attitudes tend to uphold conventional expectations, thereby allowing stereotypes to persist (Pautu et al., 2025). Moreover, a recent narrative review indicates that PE teachers present gender bias in several aspects, including spatial distribution, group composition, content selection, feedback provision, level of expectations, and motivational climate (Arenas et al., 2022). Consequently, there is evidence that some teachers frequently develop PE lessons in a way that discourages girls from participating fully (Koca, 2009), fostering feelings of marginalization, and affecting their perceived competence (Azzarito & Solomon, 2005; Butt et al., 2011). In line with this, girls typically derive less enjoyment from their PE lessons compared to boys (Huhtiniemi et al., 2019). Cairney et al. (2012) suggest that girls' perceptions of PE, along with the negative experiences that they have, may be a significant factor that explains their lower PA levels. Indeed, there is a direct relationship between gender stereotypes and the practice of PA (Alemany et al., 2019). Recent research consistently demonstrate that girls spend lower moderate-to-vigorous physical activity (MVPA) levels compared to boys during PE lessons (Muntaner-Mas, 2024; Wang & Zhou, 2022). These practices not only perpetuate gender disparities within PE but also contribute to the broader societal narrative of unequal opportunities in sports and physical activities (Azzarito & Solomon, 2005).

Despite the continued reliance on traditional educational methods like the teacher-centered direct instruction model (Kirk 2013), recent research on pedagogical models (PMs) seems to provide PE teachers with a framework that has the potential to enhance aspects, including participation, enjoyment, and social development, for both girls and boys (Metzler, 2017). PMs have been shown to improve multiple learning domains -such as physical, affective, and cognitive- thus promoting students' holistic development (Evangelio et al., 2022). Furthermore, their correct implementation contributes to the development of more equitable and inclusive environments (Hernando-Garijo et al., 2021). Oliveros and Fernandez-Rio (2022) argued that PMs focused on student-centered approaches, which promote active participation, have the potential to impact girls' PE participation.

The most extensively researched and implemented PMs, also referred to as "basic" models, include Sport Education (SE), Cooperative Learning, Teaching Games for Understanding, and Teaching for Personal and Social Responsibility (Casey & Kirk, 2020). These models are grounded in student-centered pedagogical principles that prioritize autonomy, cooperation, and shared responsibility in the learning process (Hernando-Garijo et al., 2021). SE emerges as one of the most attractive models for implementation during PE lessons for both teachers and students, primarily owing to its structure, which is based on the following six features: seasons, affiliation, formal competition, record keeping,

Journal of Sport and Health Research 2025, 18(1):91-106

festivity, and culminating event (Hastie & Mesquita 2017; Siedentop, Hastie, and Van der Mars 2019). Additionally, SE is seen as an inclusive model suitable for students of all abilities and genders, offering PE teacher versability in its application across various sports or activities (Parker & Curtner-Smith 2005). Regarding gender, the implementation of SE promotes the enhancement of social relations, fosters students' perception of equality, and encourages more balanced participation among girls and boys compared to traditional methodologies (Bessa et al., 2019; Farias et al., 2022). Notably, girls perceive SE more enjoyable than boys (Wallhead & O'sullivan, 2005), and when implemented effectively, the model can contribute to greater inclusivity (Manninen & Campbell, 2022). Additionally, the use of SE with alternative sports reduce perceived gender disparities, especially among girls (Calle et al., 2023).

Nevertheless, despite the increase in the number of investigations recommending the use of student-centered approaches to promote co-education and gender equity (Guerrero & Guerrero Puerta, 2023; Hortigüela-Alcalá & Hernando-Garijo, 2018), none have evaluated their effects beyond the students (p.e., in teachers or trainers). This research gap underscores the importance of further exploring the potential impact of SE knowledge and use on teachers' beliefs about gender stereotypes. According to Jha et al. (2020), the formation of attitudes towards gender issues in PE settings is influenced by various factors including peer interaction, personal experiences, and the guidance provided by teachers. Hence, understanding gender issues requires examining not only students' attitudes but also the beliefs of teachers. A recent review indicates that teachers training is insufficient to address gender inequality in primary schools (Salvatori & Cherubini, 2024). Moreover, a recent umbrella, which synthesizes findings from multiple systematic reviews, points out the existing gap in addressing gender issues in two PMs, one of which is SE (Fernandez-Rio & Iglesias, 2022). Therefore, the purposes of the study were: (a) examine the correlation between the use of SE features and gender stereotypes among primary school PE teachers, and (b) compare the presence of gender stereotypes among PE teachers who reported using SE and those who did not. The first hypothesis was that most SE features would show a significant negative correlation with gender stereotypes. The second hypothesis suggested that differences in gender stereotypes would exist among PE teachers who used SE and those who did not.

METHODS

Participants and settings

This cross-sectional study utilized data collected from a sample of Spanish primary school teachers, specifically in the Balearic Islands. The sample comprised 85 PE teachers (44.71% female). Regarding the type of school, 80.0% were public schools, while 18.80% and 1.20% were charter or private schools, respectively. Data collection took place during the second term of 2022.

Procedure

Data was collected through two online surveys distributed to all primary schools (322 at the time of data collection) in the Balearic Islands, irrespective of their type (public, charter, or private). The email addresses of each primary school were sourced from the Spanish Ministry of Education website. Subsequently, an email outlining the study's objectives was dispatched to the secretary of each school, with a request to forward it to the PE teachers. The email contained a link to the online surveys for those interested in participating. The surveys remained accessible for four months, with two reminders prompting schools to complete them. This method of data collection enabled us to reach the maximum number of teachers possible and facilitated the acquisition of the required data. The study received approval from the Research Ethics Committee of the University of the Balearic Islands (reference number: 252CER22) and adhered to the principles outlined in the Declaration of Helsinki.

Instruments

Before completing the two instruments of the online survey, teachers responded to two preliminary sections. The first section offered details about the study's objectives, instructions for participation, and a glossary of specific terms (such as gender stereotypes, tactical content, and technical content). The second section gathered demographic and descriptive data from the PE teachers.

Beliefs and gender stereotypes towards physical activity and sport (CEGAFD). Gender stereotypes

Journal of Sport and Health Research 2025, 18(1):91-106

were measured through the CEGAFD questionnaire developed by Granda et al. (2018). The questionnaire consisted of 24 items designed to assess participants' sports lifestyle habits and gender stereotypes across various aspects of sports and educational fields. The questionnaire is composed by five dimensions: (1) *differences associated with gender and its relationship to PA and sport* (this dimension addresses the varying interest and opportunities for participation in PA between boys and girls); (2) *sport and gender* (this dimensions highlights the different barriers and challenges faced by boys and girls in sports); (3) *stereotypes about PA and sport associated with gender* (this dimension examines common gender stereotypes associated with the sports world); (4) *beliefs about PA and sport and gender* (this dimension focuses on perceived differences in the physical and technical development potential of boys and girls); (5) *PE classes and gender* (this dimensions explores disparities in participation rates between boys and girls in PE lessons). Responses were provided on a four-point Likert scale: 1-"strongly disagree", 2-"disagree", 3-"agree", and 4-"strongly agree". This instrument has been validated in PE teachers and trainers (Mateo-Orcajada et al., 2021).

Sport education survey. Gutiérrez et al. (2022) conducted a survey to assess the implementation of SE. The survey consisted of 20 questions regarding the use of SE by PE teachers. If a teacher had not applied SE (Question 1), they responded by considering their experience across all units of games and sports taught. Questions 2 through 19 collected information on two dimensions: features and educational adaptations. SE features encompassed six categories: seasons (Q2, Q3), affiliation (Q4), formal competition (Q6, Q7), culminating event (Q9), record keeping (Q10), and festivity (Q12). Educational adaptations comprised five categories: developmentally appropriate content and competition (Q8), promotion of positive values (Q13, Q16, Q18), promotion of participation (Q5, Q11, Q19), enhanced student responsibility (Q14, Q15, Q17), and extended units (Q20A-D). Question 20 required PE teachers to report the extension (lessons) of their units. Apart from Question 1 (which had binary response options of "yes" or "no"), the remaining questions were assessed on a four-point Likert scale: 1-"never", 2-"occasionally", 3-"often", and 4-"always".

Statistical analyses

Descriptive statistics (means, standard deviations, and percentages) were obtained to examine teachers' demographic and methodological characteristics. The Kolmogorov-Smirnov test was used to assess the normality of the data, indicating that this assumption was not met. Hence, nonparametric tests were chosen. The Mann-Whitney U test was employed to determine differences between the presence of gender stereotypes and teachers who reported using the SE model against those who did not. Additionally, the Spearman correlation was utilized to measure the strength and direction of the relationship between the presence of gender stereotypes and the SE model's usage. All analyses were conducted using IBM SPSS version 27.0 software. The significance level was set at $p \leq 0.05$.

RESULTS

Demographic characteristics

Table 1 shows the demographic characteristics of both participant groups. Descriptive statics (including mean, standard deviation, frequency, and percentages) were utilized to delineate the teachers' gender, age, teaching experience, and school type.

Table 1. *Demographic characteristics of PE teachers*

Sample N (%)	*All sample*	*Using SE*	*Not using SE*
Female	38 (44.71)	20 (52.63)	18 (47.37)
Male	47 (55.29)	20 (42.55)	27 (57.45)
Total sample	85	40	45
Age	42.39 (6.82)	40.95 (7.34)	43.67 (6.13)
Teaching experience	14.73 (7.22)	14.03 (7.50)	15.36 (6.98)
School typology (%)			
Public	80.00	39.70	60.30
Charter	18.80	75.00	25.00
Private	1.20	100.00	0.00

PE, physical education; %, percentage; SD, standard deviation; N, number of the sample; SE, Sport Education.

Correlational analysis of gender stereotypes and use of SE features

Journal of Sport and Health Research 2025, 18(1):91-106

Table 2 illustrates the correlations between variables derived from certain dimensions of the gender stereotypes and features of SE. Weak negative correlations (Mondragón Barrera, 2014) were identified between: "differences associated with gender and its relationship with physical activity and sport" and "promotion of positive values" (r_s = -0.220; p = 0.043); "sport and gender" and "season" (r_s = -0.244; p = 0.024); "stereotypes about physical activity and sport associated with gender" and "season" (r_s = -0.252; p = 0.020); "stereotypes about physical activity and sport associated with gender" and "promotion of positive values" (r_s = -0.234; p = 0.031); "beliefs about physical activity and sport and gender" and "festivity" (r_s = -0.217; p = 0.046).

Journal of Sport and Health Research 2021, 13(1):1-8

Table 2. *Correlational analysis between gender stereotypes and use of Sport Education features in Spanish (Balearic Islands) physical education teachers*

Target variables		Dimension 1[a]		Dimension 2[b]		Dimension 3[c]		Dimension 4[d]		Dimension 5[e]	
		p	r_s	*p*	r_s	*p*	r_s	*p*	r_s	*p*	r_s
Season		0.341	-0.105	**0.024**	**-0.244***	**0.020**	**-0.252***	0.561	-0.64	0.349	-0.103
Affiliation		0.356	-0.101	0.780	0.031	0.328	-0.107	0.193	-0.143	0.466	0.080
Formal competition		0.088	0.186	0.315	0.110	0.218	0.135	0.519	-0.071	0.890	-0.015
Culminating event		0.988	0.002	0.848	0.021	0.510	0.072	0.304	-0.113	0.660	0.048
Record keeping		0.254	0.125	0.514	-0.072	0.876	0.017	0.195	-0.142	0.845	0.022
Festivity		0.899	-0.014	0.582	-0.061	0.729	0.038	**0.046**	**-0.217***	0.569	0.063
Development appropriate content and competition		0.112	0.173	0.806	0.027	0.671	0.047	0.307	0.112	0.100	-0.179
Promotion of positive values		**0.043**	**-0.220***	0.508	-0.073	**0.031**	**-0.234***	0.052	-0.212	0.178	-0.148
Promotion of participation		0.515	0.072	0.808	0.027	0.315	0.110	0.428	-0.087	0.399	-0.093
Enhanced students' responsibility		0.614	0.056	0.357	-0.101	0.667	-0.047	0.912	0.012	0.873	-0.018
Extended units (lessons)	Less than 7 lessons	0.366	0.099	0.978	-0.003	0.810	0.026	0.616	-0.055	0.222	-0.0134
	From 7 to 10 lessons	0.321	-0.109	0.945	0.008	0.885	-0.016	0.288	0.117	0.342	0.104
	From 11 to 14 lessons	0.301	-0.114	0.069	-0.198	0.312	-0.111	0.440	-0.085	0.166	0.152
	More than 14 lessons	0.993	-0.001	0.197	0.141	0.844	0.022	0.895	0.015	0.188	0.144

r_s, Spearman's correlation coefficient; *p*, p-value. *****Significant correlation between variables ($P \leq 0.05$).

Notes.

[a] = differences associated with gender and its relationship with physical activity and sport.

[b] = sport and gender.

[c] = stereotypes about physical activity and sport associated with gender.

[d] = beliefs about physical activity and sport and gender.

[e] = physical education classes and gender.

Journal of Sport and Health Research 2025, 18(1):91-106

Comparison of gender stereotypes among physical education teachers using and not using SE

Table 3 shows the differences of gender stereotypes among PE teachers who reported using (n = 40) and not using SE (n = 45). The results of the Mann-Whitney U test indicated that there were no significant differences among the two groups across five dimensions (*p* values ranged from 0.078 to 0.893.

Table 3. *Gender stereotypes among physical education teachers who reported using and not using SE*

Dimensions	Using SE (n = 40)	Not using SE (n = 45)	*U*	Z	*p*
	Mean ± SD	Mean ± SD			
Differences associated with gender and its relationship with physical activity and sport	1.49 ± 0.51	1.49 ± 0.49	885.000	-0.134	0.893
Sport and gender	2.19 ± 0.74	2.23 ± 0.75	856.500	-0.385	0.700
Stereotypes about physical activity and sport associated with gender	1.75 ± 0.50	1.87 ± 0.65	819.500	-0.714	0.475
Beliefs about physical activity and sport and gender	2.48 ± 0.45	2.52 ± 0.50	873.000	-0.263	0.792
PE classes and gender	1.10 ± 0.19	1.23 ± 0.35	729.500	-1.765	0.078

SE, Sport Education; SD, standard deviation; N, number of the sample; *U*, U de Mann-Whithney; *p*, p-value. The scores ranged from 1 = "strongly disagree" to 4 = "strongly agree".

DISCUSSION

The main objectives of this study were to examine the correlation between the use of SE features and gender stereotypes among primary school PE teachers, and to compare the presence of gender stereotypes among PE teachers who reported using SE and those who did not. Results indicated that: (1) only a minority of SE features ("season", and "festivity") and pedagogical strategies ("promotion of positive values") had a weak negative but statistically significant correlation with gender stereotypes, and (2) no significant differences were found in gender stereotypes among PE teachers who reported using SE and those who did not.

Contrary to our first hypothesis, our findings did not support the expected negative correlation between the use of SE features and gender stereotypes among PE teachers. Although prior studies did not specifically investigate this correlation, existing research has slightly explored the relationship between SE features and gender issues, particularly in girls. For instance, Hastie and Sinelnikov (2006) illustrated that SE features, such as the use of roles (i.e., coaches, captains, among others), enhanced girls' (and low-skilled students) learning during PE lessons. In this sense, teachers perceived that assigning roles not only attracted girls but also encouraged their active participation in PE lessons (Kinchin et al., 2012). In fact, girls showed greater dedication compared to boys (García López et al., 2012), prioritizing the inclusivity and the promotion of positive values (Harsoulas-Covin & Collier, 2005). However, if boys predominantly occupied central decision-making roles (i.e., coach or captain), it could inadvertently reinforce gender stereotypes (Chen & Curtner-Smith, 2013). Our findings suggested that the use of roles, which is part of the "promotion of positive values" survey component, demonstrated a significant negative correlation with gender stereotypes among PE teachers. This suggests that PE teachers who integrated roles into their teaching practices showed a significant negative correlation with gender stereotypes compared to those who did not use them. Concerning the "festivity" component, Hastie and Sinelnikov (2006) demonstrated that girls showed a

Journal of Sport and Health Research 2025, 18(1):91-106

greater support using this component compared to boys, which also correlated with a significant negative presence of gender stereotypes. This also implies that PE who used the “festivity” component also displayed a slightly lower presence of gender stereotypes compared to those who did not. Moreover, a few studies examining all features of SE found that students of both genders generally held positive perceptions of them. Nevertheless, boys displayed a notably significant preference to “formal competition” (Gutierrez et al., 2013), and “season” (Hastie & Sinelnikov 2006) compared to girls. Contrary to our expectations it appears that PE teachers who used the "season" component had a significant negative correlation with the presence of gender stereotypes in our study, showing a slight reduction compared to those who did not use it.

Conversely, other key features of SE (such as “affiliation”, “culminating event”, and “record keeping”), which were not explicitly mentioned, showed no statistically significant correlation with gender stereotypes among PE teachers using SE and those who did not. In contrast to our findings, using certain of these SE components was associated with positive effects on girls. For example, MacPhail et al. (2008) determined that “affiliation” was a key component contributing to girls’ enjoyment in PE. Likewise, girls reported that they experienced significant improvement due to the longer duration of the season with the same team, characteristic of “affiliation”, which enhanced their sense of pertinence (Gutierrez et al., 2013). Concerning the “culminating event”, PE teachers observed that girls demonstrated particular engagement and enthusiasm during its execution (Kinchin et al., 2009). No specific findings regarding the key component of "record keeping" among girls were found in the literature.

Our results also confirmed the rejection of the second hypothesis, PE teachers who reported using SE did not show significant differences in gender stereotypes compared to those who did not. Although there was a near-significant difference in the dimension of “PE classes and gender” between the two groups, it was not enough to be considered statistically significant. (Frühauf et al., 2022) suggested that it is concerning that PE teachers have reported a lack of knowledge in addressing gender issues in PE settings. For instance, Parker and Curtner-Smith (2012) demonstrated that the SE model had more potential than traditional curricular models to improve dominant forms of masculinity, but it requires additional teacher effort. Concerning the above study, in-service teachers were found to be better prepared to combat sexism and masculine bias than pre-service teachers due to their greater experience and pedagogical knowledge (Chen & Curtner-Smith, 2013). In fact, recent research showed that pre-service PE teachers were aware of the significant influence of gender stereotypes and considered PE settings as ideal spaces to address them. However, they often lack the necessary training to effectively transform their teaching practices (González-Calvo et al., 2022). This is aligned with Serra et al. (2018), who revealed that Spanish Physical Education Teacher Education (PETE) programs frequently overlook teaching gender equity, thereby perpetuating traditional narratives that discriminate against girls.

Research indicated pedagogical structures of SE may not adequately address these stereotypical issues (Farias et al., 2016). Agreeing with this, Oliveros and Fernandez-Rio (2022) added that using PMs, including SE, whether single or hybridized, is not enough to address gender issues. Teachers should be attuned to these concerns and proactively adapt SE's structures to maximize the inclusive opportunities inherent in this model (Vidoni & Ward, 2009). Given this context, some authors emphasized the importance of moving beyond equal opportunities to disrupt the dynamics of gender stereotypes (García López & Kirk 2022). For this, it has been recommended that PE teachers should actively engage with girls, listening to their perspectives to better understand the barriers they encounter (Oliver & Kirk, 2014). Guadalupe and Curtner-Smith (2019) found through qualitative methods involving 37 girls that they felt more comfortable participating in PE lessons, both high-skilled and low-skilled, when they can negotiate the curriculum with the teacher. Consequently, Castro-García et al. (2024) emphasized the importance of incorporating critical and feminist pedagogical approaches, particularly those that critically examine constructions of masculinity, as a means to promote social justice and challenge gender inequalities within PE settings. Likewise, Brock et al. (2009) argued that students, with the help of teachers, must recognize all status

Journal of Sport and Health Research 2025, 18(1):91-106

issues that may marginalize them, including not only gender but also skill level, personality, athleticism, attractiveness, and economic status. PE cannot be an equal and inclusive place without students being aware of these status issues (Brock et al., 2009).

The present study has several limitations that should be considered. Firstly, these results should not be generalized, as the sample is not representative of the entire teacher collective. Secondly, the questionnaires used did not account for prior knowledge about gender stereotypes and SE features of PE teachers. Thirdly, the reliance on self-reported data may introduce bias, as teachers might underreport their adherence to gender stereotypes or overreport their use of SE features. Finally, these results could not be compared with other studies, as none have assessed variables related to gender and PMs in PE teachers. The main strength of this study is that it addresses two key research gaps in the field: first, by tackling gender issues within PMs (SE in this case), and second, by focusing on PE teachers, whereas most existing literature has primarily concentrated on students. Moreover, the study's focus on teachers from the same educational stage (primary school) adds further relevance to its findings.

CONCLUSIONS

Overall, our results indicated that only a few features of SE were weakly negatively correlated with gender stereotypes. Additionally, no significant differences were observed in gender stereotypes between PE teachers who reported using SE and those who did not. This suggests that the use of SE alone may not significantly enhance the way gender issues are addressed in PE settings unless it is accompanied by intentional strategies specifically designed to target gender equity. Similarly, PE teachers who use SE might not be better prepared to address gender issues compared to those who do not. However, these conclusions should be interpreted with caution due to the cross-sectional nature of the study.

For all these reasons, we propose increasing research on the existing gap related to gender and PMs to understand how to develop holistic interventions, making PE lessons more inclusive and equitable. Additionally, research should not only focus on students but also on PE teachers, who are the main transmitters of stereotypes in PE. Finally, complementing this research with qualitative methods could provide more robust information on how to implement PMs with a gender perspective for both students and teachers.

ACKNOLEDGMENTS

The authors would like to express their gratitude to all PE teachers who participated in the study.

REFERENCES

Alemany, I., Aguilar García, N., Granda Ortells, L., & Granda Vera, J. (2019). Estereotipos de género y práctica de actividad física. *Movimento*, e25082–e25082. https://doi.org/10.22456/1982-8918.93460

Arenas, D., Vidal-conti, J., & Muntaner-mas, A. (2022). Estereotipos de género y tratamiento diferenciado entre chicos y chicas en la asignatura de educación física: Una revisión narrativa Gender stereotypes and differential treatment between boys and girls in physical education subject: A narrative review. *Retos*, *2041*, 342–351.

Azzarito, L., & Solomon, M. A. (2005). A reconceptualization of physical education: The intersection of gender/race/social class. *Sport, Education and Society*, *10*(1), 25–47. https://doi.org/10.1080/135733205200028794

Bessa, C., Hastie, P., Araújo, R., & Mesquita, I. (2019). What Do We Know About the Development of Personal and Social Skills within the Sport Education Model: A Systematic Review. *Journal of Sports Science & Medicine*, *18*(4), 812–829.

Journal of Sport and Health Research 2025, 18(1):91-106

Brock, S. J., Rovegno, I., & Oliver, K. L. (2009). The influence of student status on student interactions and experiences during a sport education unit. *Physical Education & Sport Pedagogy*, *14*(4), Article 4. https://doi.org/10.1080/17408980802400494

Butt, J., Weinberg, R. S., Breckon, J. D., & Claytor, R. P. (2011). Adolescent physical activity participation and motivational determinants across gender, age, and race. *Journal of Physical Activity & Health*, *8*(8), 1074–1083. https://doi.org/10.1123/jpah.8.8.1074

Cairney, J., Kwan, M. Y., Velduizen, S., Hay, J., Bray, S. R., & Faught, B. E. (2012). Gender, perceived competence and the enjoyment of physical education in children: A longitudinal examination. *International Journal of Behavioral Nutrition and Physical Activity*, *9*(1), 26. https://doi.org/10.1186/1479-5868-9-26

Calle, O., Antúnez, A., Ibáñez, S. J., & Feu, S. (2023). Pedagogical Models in Alternative Invasion Team Sports: A Systematic Review. *Sustainability*, *15*(18), Article 18. https://doi.org/10.3390/su151813465

Casey, A., & Kirk, D. (2020). *Models-based Practice in Physical Education*. https://doi.org/10.4324/9780429319259

Castro-García, M., Barquero-Ruiz, C., & López-Villar, C. (2024). Are Gender Stereotypes Still Prevalent in Physical Education? Spanish Teachers' and Students' Beliefs and Attitudes Toward Gender Equity. *Journal of Teaching in Physical Education*. https://www.researchgate.net/publication/381046305_Are_Gender_Stereotypes_Still_Prevalent_in_Physical_Education_Spanish_Teachers'_and_Students'_Beliefs_and_Attitudes_Toward_Gender_Equity

Chen, Y., & Curtner-Smith, M. (2013). Hegemonic masculinity in sport education: Case studies of experienced in-service teachers with teaching orientations. *European Physical Education Review*, *19*(3), 360–380. https://doi.org/10.1177/1356336X13495631

Connell, R. W., & Messerschmidt, J. W. (2005). Hegemonic Masculinity: Rethinking the Concept. *Gender & Society*, *19*(6), 829–859. https://doi.org/10.1177/0891243205278639

Curtner-Smith, M. D., Kinchin, G. D., Hastie, P. A., Brunsdon, J. J., & Sinelnikov, O. A. (2020). "It's a Lot Less Hassle and a Lot More Fun": Factors That Sustain Teachers' Enthusiasm for and Ability to Deliver Sport Education. *Journal of Teaching in Physical Education*, *40*(2), 312–321. https://doi.org/10.1123/jtpe.2019-0275

Journal of Sport and Health Research 2025, 18(1):91-106

Evangelio, C., González-Víllora, S., Fernandez-Rio, J., & Peiró-Velert, C. (2022). Students' perceptions on three-way pedagogical models hybridization: Contributing to the development of active identities. *Sport, Education and Society*, *27*(6). https://doi.org/10.1080/13573322.2021.1907327

Fagrell, B., Larsson, H., & Redelius, K. (2012). The game within the game: Girls' underperforming position in Physical Education. *Gender and Education*, *24*(1), 101–118. https://doi.org/10.1080/09540253.2011.582032

Farias, C., Mesquita, I., & Hastie, P. (2016). The Sport Education Model: Research update and future avenues for practice and investigation. *Revista Portuguesa de Ciências Do Desporto*, *2016*, 73–96. https://doi.org/10.5628/rpcd.16.01.73

Farias, C., Segovia, Y., Valério, C., & Mesquita, I. (2022). Does Sport Education promote equitable game-play participation? Effects of learning context and students' sex and skill-level. *European Physical Education Review*, *28*(1), 20–39. https://doi.org/10.1177/1356336X211013832

Fernandez-Rio, J., & Iglesias, D. (2022). What do we know about pedagogical models in physical education so far? An umbrella review. *Physical Education and Sport Pedagogy*, *0*(0), 1–16. https://doi.org/10.1080/17408989.2022.2039615

Frühauf, A., Hundhausen, F., & Kopp, M. (2022). Better Together? Analyzing Experiences from Male and Female Students and Teachers from Single-Sex and Coeducational Physical Education Classes. *Behavioral Sciences*, *12*(9), 306. https://doi.org/10.3390/bs12090306

García López, L., Gutierrez, D., González-Víllora, S., & Valenzuela, A. (2012). Cambios en la empatía, la asertividad y las relaciones sociales por la aplicación del modelo de instrucción educación deportiva (CHANGES IN EMPATHY, ASSERTIVENESS AND SOCIAL RELATIONS DUE TO THE IMPLEMENTATION OF THE SPORT EDUCATION MODEL). *Revista de Psicologia Del Deporte*, *2*, 321–330.

González-Calvo, G., Gallego-Lema, V., Gerdin, G., & Bores-García, D. (2022). Body image(s): Problematizing future physical education teachers' beliefs about the body and physical activity through visual imagery. *European Physical Education Review*, *28*(2), 552–572. https://doi.org/10.1177/1356336X211056214

Granda, J., Alemany, I., & Aguilar, N. (2018). Género y relación con la práctica de la actividad física y el deporte [Gender and its Relationship with the Practice of Physical Activity and Sport]. *Apunts Educación Física y Deportes*, *136*, 21–33.

Journal of Sport and Health Research 2025, 18(1):91-106

https://doi.org/10.5672/apunts.2014-0983.es.(2018/2).132.09

Guadalupe, T., & Curtner-Smith, M. D. (2019). "We Know What We Like to Do:" Effects of Purposefully Negotiating the Curriculum on the Girls in One Middle School Class and Their Teacher. *Journal of Teaching in Physical Education*, *39*(2), 147–155. https://doi.org/10.1123/jtpe.2019-0050

Guerrero, M. A., & Guerrero Puerta, L. (2023). Advancing Gender Equality in Schools through Inclusive Physical Education and Teaching Training: A Systematic Review. *Societies*, *13*(3), Article 3. https://doi.org/10.3390/soc13030064

Gutierrez, D., García López, L., Hastie, P., & Calderón, A. (2013). Spanish students' perceptions of their participation in seasons of sport education. *The Global Journal of Health and Physical Education Pedagogy*, *2*, 111–127.

Gutiérrez, D., García-López, L. M., Hastie, P. A., & Segovia, Y. (2022). Adoption and fidelity of Sport Education in Spanish schools. *European Physical Education Review*, *28*(1), Article 1. https://doi.org/10.1177/1356336X211036066

Harsoulas-Covin, R., & Collier, C. (2005). Gendered experiences in a coeducational Sport Education season. *Research Quarterly for Exercise and Sport*, *1*(76), Suppl. A-74-A-75.

Hastie, P., & Mesquita, I. (2017). Sport-based physical education. In *Routledge Handbook of Physical Education Pedagogies* (pp. 68–84). Routledge.

Hastie, P., & Sinelnikov, O. (2006). Russian students ' participation in and perceptions of a season of Sport Education. *European Physical Education Review - EUR PHYS EDUC REV*, *12*, 131–150. https://doi.org/10.1177/1356336X06065166

Hernando-Garijo, A., Hortigüela-Alcalá, D., Sánchez-Miguel, P. A., & González-Víllora, S. (2021). Fundamental Pedagogical Aspects for the Implementation of Models-Based Practice in Physical Education. *International Journal of Environmental Research and Public Health*, *18*(13), Article 13. https://doi.org/10.3390/ijerph18137152

Hortigüela-Alcalá, D., & Hernando-Garijo, A. (2018). El trabajo coeducativo y la igualdad de género desde la formación inicial en educación física. *Contextos Educativos. Revista de Educación*, *21*, Article 21. https://doi.org/10.18172/con.3292

Huhtiniemi, M., Sääkslahti, A., Watt, A., & Jaakkola, T. (2019). Associations among Basic Psychological Needs, Motivation and Enjoyment within Finnish Physical Education Students. *Journal of Sports Science & Medicine*, *18*(2), 239–247.

Jha, S. S., Dasgupta, A., Paul, B., Ghosh, P., & Biswas, A. (2020). Attitude and perception of gender equity

Journal of Sport and Health Research 2025, 18(1):91-106

among students and teachers of a rural school in West Bengal: A mixed-method approach. *Journal of Education and Health Promotion*, *9*, 330. https://doi.org/10.4103/jehp.jehp_597_20

Kinchin, G. D., MacPhail, A., & Chróinín, D. N. (2012). Irish primary school teachers' experiences with Sport Education. *Irish Educational Studies*, *31*(2), Article 2. https://doi.org/10.1080/03323315.2011.649403

Kinchin, G. D., Macphail, A., & Ni Chroinin, D. (2009). Pupils' and teachers' perceptions of a culminating festival within a sport education season in Irish primary schools. *Physical Education & Sport Pedagogy*, *14*(4), Article 4. https://doi.org/10.1080/17408980802584982

Kirk, D. (2013). Educational Value and Models-Based Practice in Physical Education. *Educational Philosophy and Theory*, *45*(9), Article 9. https://doi.org/10.1080/00131857.2013.785352

Koca, C. (2009). Gender interaction in coed physical education: A study in Turkey. *Adolescence*, *44*(173), 165–185.

MacPhail, A., Gorely, T., Kirk, D., & Kinchin, G. (2008). Children's Experiences of Fun and Enjoyment During a Season of Sport Education. *Research Quarterly for Exercise and Sport*, *79*(3), Article 3. https://doi.org/10.1080/02701367.2008.10599498

Manninen, M., & Campbell, S. (2022). The effect of the Sport Education Model on basic needs, intrinsic motivation and prosocial attitudes: A systematic review and multilevel meta-analysis. *European Physical Education Review*, *28*(1), 78–99. https://doi.org/10.1177/1356336X211017938

Mateo-Orcajada, A., Abenza-Cano, L., Vaquero-Cristóbal, R., Martínez-Castro, S. M., Leiva-Arcas, A., Gallardo-Guerrero, A. M., & Sánchez-Pato, A. (2021). Gender Stereotypes among Teachers and Trainers Working with Adolescents. *International Journal of Environmental Research and Public Health*, *18*(24), Article 24. https://doi.org/10.3390/ijerph182412964

Metzler, M. (2017). *Instructional Models in Physical Education* (3rd ed.). Routledge. https://doi.org/10.4324/9781315213521

Mondragón Barrera, M. A. (2014). USO DE LA CORRELACIÓN DE SPEARMAN EN UN ESTUDIO DE INTERVENCIÓN EN FISIOTERAPIA. *Movimiento científico*, *8*(1), Article 1. https://doi.org/10.33881/2011-7191.mct.08111

Muntaner-Mas, A. (2024). Physical Activity and Health Through Physical Education. In A. García-Hermoso (Ed.), *Promotion of Physical Activity and Health in the School Setting* (pp. 167–191).

Journal of Sport and Health Research 2025, 18(1):91-106

Springer Nature Switzerland. https://doi.org/10.1007/978-3-031-65595-1_7

Niemi, N. (2010). Still failing at fairness: How gender bias cheats girls and boys in school and what we can do about it, by David Sadker, Myra Sadker and Karen Zittleman. *Gender and Education, 22*. https://doi.org/10.1080/09540250903464773

Oliver, K., & Kirk, D. (2014). Towards an activist approach to research and advocacy for girls and physical education. *Physical Education and Sport Pedagogy, 21*, 1–15. https://doi.org/10.1080/17408989.2014.895803

Oliveros, M., & Fernandez-Rio, J. (2022). Pedagogical models: Can they make a difference to girls' in-class physical activity? *Health Education Journal*, *81*(8), 913–925. https://doi.org/10.1177/00178969221128641

Parker, M. B., & Curtner-Smith, M. D. (2012). Sport education: A panacea for hegemonic masculinity in physical education or more of the same? *Sport, Education and Society*, *17*(4), 479–496. https://doi.org/10.1080/13573322.2011.608945

Parker, M., & Curtner-Smith, M. (2005). Health-related fitness in sport education and multi-activity teaching. *Physical Education & Sport Pedagogy*, *10*, 1–18. https://doi.org/10.1080/1740898042000334872

Pautu, A., Petracovschi, S., & Domokos, M. (2025). The impact of gender stereotypes on physical education lessons: A pilot study regarding the qualitative analysis of teachers' perceptions. *Frontiers in Psychology*, *16*, 1575686. https://doi.org/10.3389/fpsyg.2025.1575686

Salvatori, M. L., & Cherubini, D. (2024). Gender stereotypes in physical education: State of the art and future perspectives in primary school. *Pedagogy of Physical Culture and Sports*, *28*(3), Article 3. https://doi.org/10.15561/26649837.2024.0308

Serra, P., Soler, S., Prat, M., Vizcarra, M. T., Garay, B., & Flintoff, A. (2018). The (in)visibility of gender knowledge in the Physical Activity and Sport Science degree in Spain. *Sport, Education and Society*, *23*(4), 324–338. https://doi.org/10.1080/13573322.2016.1199016

Siedentop, D., Hastie, P., & Van der Mars, H. (2019). *Complete Guide to Sport Education* (3rd ed.). Human Kinetics.

Solmon, M. A. (2014). Physical education, sports, and gender in schools. *Advances in Child Development and Behavior*, *47*, 117–150. https://doi.org/10.1016/bs.acdb.2014.04.006

Stewart, R., Wright, B., Smith, L., Roberts, S., & Russell, N. (2021). Gendered stereotypes and norms: A systematic review of interventions designed to

Journal of Sport and Health Research 2025, 18(1):91-106

shift attitudes and behaviour. *Heliyon*, *7*(4), e06660. https://doi.org/10.1016/j.heliyon.2021.e06660

Tischler, A., & McCaughtry, N. (2011). PE is not for me: When boys' masculinities are threatened. *Research Quarterly for Exercise and Sport*, *82*(1), 37–48. https://doi.org/10.1080/02701367.2011.10599720

Tischler, A., & McCaughtry, N. (2014). Shifting and Narrowing Masculinity Hierarchies in Physical Education: Status Matters. *Journal of Teaching in Physical Education*, *33*(3), 342–362. https://doi.org/10.1123/jtpe.2012-0115

Valley, J. A., & Graber, K. C. (2017). Gender-biased communication in physical education. *Journal of Teaching in Physical Education*, *36*(4), 498–509. https://doi.org/10.1123/jtpe.2016-0160

Vidoni, C., & Ward, P. (2009). Effects of fair play instruction on student social skills during a middle school sport education unit. *Physical Education and Sport Pedagogy*, *14*(3), 285–310. https://doi.org/10.1080/17408980802225818

Wallhead, T., & O'sullivan, M. (2005). Sport Education: Physical education for the new millennium? *Physical Education and Sport Pedagogy*, *10*(2), 181–210. https://doi.org/10.1080/17408980500105098

Wang, L., & Zhou, Y. (2022). A Systematic Review of Correlates of the Moderate-to-Vigorous Physical Activity of Students in Elementary School Physical Education. *Journal of Teaching in Physical Education*, *42*(1), 44–59. https://doi.org/10.1123/jtpe.2020-0197