



Impact of the PE programme on gender equality and personal development: an empirical study of school basketball

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Abstract

The sport, particularly basketball, fosters the social and personal development of young people, but its impact on gender equality remains under-exploited. The purpose of this study is to explore the impact of a physical education and sports programme on reducing gender inequalities and the personal development of pupils through school basketball. The study encompassed a total of 340 students, with 49.41% of them being from middle school and the remaining 50.59% from high school. To assess participants' perceptions of gender equality, the promotion of potential, and community life, Likert scales were employed. A descriptive analysis of frequencies and percentages was conducted, followed by an analysis of variance (ANOVA) to evaluate the impact of socio-demographic and sporting variables. A Spearman's correlation test was utilised to ascertain the relationships between the variables. The findings of the study demonstrate that socio-demographic characteristics exert a substantial influence on the cultivation of potential and the propagation of social values; however, they do not appear to impact the promotion of gender equality. Participation in club sports activities has been shown to exert a positive influence on the development of potential and the dissemination of social values. Repeated social interaction in sports clubs has been found to encourage the acquisition of socio-emotional skills. School basketball promotes personal development, but targeted educational interventions are needed to improve gender equality. Future research is recommended.

Keywords: Leadership, Psychosocial skills, Gender stereotypes, Socialisation, Inclusion

1 Introduction

Sport has long been recognised as a catalyst for social and personal development, playing a crucial role in shaping young people by providing opportunities for physical, emotional and social growth (Vo et al., 2022). However, its potential to transform young people's perceptions and behaviours with regard to gender equality and social values remains under-exploited (Troell et al., 2023). Team



sports, in particular, offer a unique platform for addressing these issues in a holistic and impactful way (Vaughan et al., 2019). Basketball, being a team sport, provides a unique platform for the promotion of these objectives, fostering collaboration, resilience and social inclusion (Al Aridhee et al., 2023). The dynamic and interactive nature of the sport requires constant coordination between team members, thereby fostering communication and empathy, this dynamic reinforces cooperation and mutual respect, which are essential values for living together (Guidotti et al., 2023). Furthermore, basketball confronts participants with physical and emotional challenges, thereby developing their resilience and ability to manage stress (Nuetzel, 2023). These skills are particularly reinforced in girls, thanks to leadership experiences on the court (Supervised & Seitz, 2023). Consequently, basketball provides a distinctive opportunity to promote gender equality and personal development within a school environment (Staurowsky et al., 2020).

Physical and sports education (PSE) has been identified as playing a fundamental role in the construction of individual and collective identities, acting as a vehicle for socialisation and learning about societal values (Nagy, 2025). Through its programmes, it has been shown to foster the acquisition of physical, cognitive and emotional skills, while raising pupils' awareness of the issues of gender equality and personal development (Parri & Ceciliani, 2020). Within this paradigm, the sport of school basketball emerges as a prime site for the examination of the dynamics of inclusion, cooperation and leadership among male and female students (Ben Rakaa et al., 2025). The inherent heterogeneity and accessibility of this sport within the school environment renders it a particularly suitable medium for the observation of gender-related social representations and their influence on pupils' participation, performance and self-esteem (Balducci, 2023). The positive attitude in teaching practice and interactions in game situations thus constitutes an indispensable tool for the



assessment of the impact of sporting activities on the reduction of stereotypes and the enhancement of young people's self-confidence and it optimizes inclusion (Ben Rakaa et al., 2024a, 2024c).

The issue of gender equality in physical education and sport is a complex one, influenced by a multitude of cultural, institutional and individual factors, requiring a multidimensional approach to understand its mechanisms and effects (Subramaniapillai et al., 2024). Despite changes in educational policies and the introduction of inclusive programmes, gender disparities persist, affecting the perception of roles and opportunities for participation in physical activities (Ben Rakaa et al., 2024b). School basketball, with its flexible rules and ability to encourage cooperation, provides a relevant framework for studying these dynamics and identifying the most effective pedagogical strategies for promoting equity (Zhou & Colomer, 2024). The interactions involved reveal gender-differentiated behaviour, influenced by the expectations of teachers, peers and the social context (Morawska, 2020).

The personal development of pupils constitutes a pivotal element within the domain of physical education and sport (Suyato et al., 2024). The cultivation of psychosocial competencies, which are indispensable for both individual and collective fulfilment, is a fundamental objective of these educational pursuits (Ben Rakaa et al., 2025). The act of engaging in basketball provides a setting that compels young individuals to respond expeditiously to circumstances, effectively regulate their emotional responses, and adapt to the interactions with their teammates and opponents (Campo et al., 2012). The dynamic nature of the game fosters the development of attributes such as self-confidence, autonomy, and resilience, which are indispensable for effective integration into societal frameworks (Ratten & Jones, 2018). Furthermore, the principles of commitment and responsibility



that sport fosters have been shown to enhance motivation in the classroom and to reduce risk-taking behaviours among adolescents (Ponsford et al., 2022). The study of these mechanisms within the school environment facilitates the evaluation of how physical education programmes can be optimised to reinforce these skills and to offer pupils learning opportunities that are adapted to their needs and aspirations.

The mounting interest in integrating physical education and sport into educational strategies with a focus on gender equality and personal development (Royet et al., 2024). From this perspective, the aim of this research is to highlight the benefits of basketball as an educational and social lever, offering pupils enriching experiences that promote their personal development and inclusion in society, the integration of gender equality principles into education has become a growing concern, particularly in the context of school-based physical education (PE) programmes. While sports are often perceived as a powerful tool for fostering inclusion and breaking down societal barriers, their impact on gender dynamics within the educational framework remains an area requiring further investigation. School basketball, as a structured sporting discipline, offers a unique opportunity to explore these issues by examining how participation influences students' perceptions, attitudes, and behaviours regarding gender equality and personal development (Belabbes et al., 2024). Despite efforts to promote gender equity in education, persistent stereotypes and social constructs continue to shape students' experiences and interactions in physical education settings.

The extent to which school-based basketball can serve as a medium for challenging these stereotypes and fostering a more inclusive environment remains largely unexplored. The central research question guiding this study is: does participation in basketball contribute to reshaping

gender perceptions among students, and how does it influence their social and personal growth within the school setting? The study's objective is to conduct an empirical investigation into the pedagogical and social mechanisms that drive change in this context. The study will assess the impact of the physical education and sports programme, with a particular focus on basketball, on promoting gender equality and enhancing students' psychosocial competencies. The study will examine the role of basketball in the deconstruction of gender stereotypes and the reinforcement of personal development, with a view to providing valuable insights into how school sports can be leveraged as a vehicle for social transformation within the education system.

2 **Méthodologie**

2.1 ***Participant***

The following table provides a detailed breakdown of the participants according to gender, school year, age, and place of residence. The data reveals a near-equality between secondary school students (49.41%) and high school students (50.59%), with a marginal predominance of females among high school students (57.56%). A similar trend is evident when analysing the data by age, with the proportion of girls rising from 52.46% in the 12-15 age group to 58.19% in the 16-18 age group. In relation to place of residence, urban areas demonstrate a slight majority of 54.71% for city-dwelling students, while a higher proportion of males is recorded in rural areas, at 62.34%.

Table 1. Characteristics of participants

Participants		Gender		Total n (%)
		Female n (%)	Male n (%)	
School level	Middle school	57(33.93%)	111(66.07%)	168(49.41%)
	High school	99(57.56%)	73(42.44%)	172(50.59%)



Age (years old)	12-15	53(32.52%)	110(67.48%)	163(47.94%)
	16-18	103(58.19%)	74(41.81%)	177(52.06%)
Area of residence	Rural	58(37.66%)	96(62.34%)	154(45.29%)
	Urban	98(52.69%)	88(47.31%)	186(54.71%)

2.2 Measurement instrument

The measurement instrument presented here facilitates a multidimensional evaluation of the impact of an educational programme grounded in basketball. It encompasses socio-demographic characteristics, the frequency and duration of sports engagement, and salient psychosocial dimensions. Likert scales were utilised to gauge participants' perceptions of the promotion of gender equality, the enhancement of potential, community life, and the reduction of stereotypes. The adopted approach is significant in that it synthesises quantitative indicators with subjective perceptions, thereby facilitating an in-depth analysis of the programme's impact. The scale has been validated by five experts, thereby guaranteeing its relevance and reliability.

2.3 Data Analysis

A descriptive analysis of frequencies and percentages was carried out to characterise the participants. Means and standard deviations were then calculated for all the variables studied. A one-factor analysis of variance (ANOVA) test was applied to assess the effect of sociodemographic and sports variables on the change in values. Finally, a Spearman correlation test (Rho) was used to measure the strength of the relationships between the variables studied.



3 Results

The present section puts forward three analytical frameworks. Firstly, the effect of socio-demographic factors on the variables studied is examined. Next, the impact of sport participation on values is analysed. Finally, the nature of the relationships between all the variables is examined.

3.1 *Effect of socio-demographic characteristics on all values*

The table illustrates the effect of socio-demographic characteristics on the values studied, using an analysis of variance (ANOVA). The analysis reveals that no particular factor exerts a substantial influence on the promotion of equality between women and men. However, the discovery and enhancement of potential and the dissemination of the values of living together are significantly influenced by gender, age, place of residence and level of education ($p < 0.001$).

Table 2. Effect of socio-demographic characteristics on the values of Promoting Gender

Equality, Discovering and Valuing Potential and Disseminating the Values of Living Together

Variables	Average± SD	Gender			Age			Area of residence			School level		
		MS	F	p	MS	F	p	MS	F	p	MS	F	p
Promoting gender equality	2.621 ±0.669	0.094	0.211	NS	0.353	0.789	NS	0.006	0.012	NS	0.114	0.255	NS
Discovering and developing potential	3.047 ±0.612	12.436	36.686	.000	5.83	16.262	.000	32.102	114.324	.000	5.194	14.411	.000
Disseminating the Values of Living Together	3.055 ±0.567	20.628	78.87	.000	8.308	27.878	.000	4.156	13.394	.000	7.919	26.473	.000

MS. Medium square, SD. Standard deviation, NS. Non Significant

3.2 *Impact of school and club sports practice on all values*

The table illustrates the impact of school and club sport on the values studied, revealing that there is no statistically significant relationship between the promotion of gender equality and the duration



of participation in school sports, the club environment or the frequency of sporting activities. Conversely, participation in voluntary activities and the frequency of club sports activities significantly influenced the discovery and improvement of potential ($p < 0.001$). Furthermore, the dissemination of values of living together was found to be influenced by the duration and frequency of club activities ($p = 0.022$ and $p = 0.047$).

Table 3. Impact of school and club sports on the values of promoting gender equality, discovering and developing potential, and spreading the values of living together.

Variables	Average± SD	PE practice			Duration of practice at school			Club sports			Frequency of club sports		
		MS	F	p	MS	F	p	MS	F	p	MS	F	p
Promoting gender equality	2.621 ±0.669	1.014	2.274	NS	0.063	0.14	NS	0.47	1.052	NS	2.568	5.821	.016
Discovering and developing potential	3.047 ±0.612	0.039	0.105	NS	10.899	31.727	.000	1.018	2.73	NS	6.071	16.966	.000
Disseminating the Values of Living Together	3.055 ±0.567	1.687	5.311	.022	0.21	0.652	.420	4.967	16.134	.000	1.268	3.976	.047

MS. Medium square, SD. Standard deviation, NS. Non Significant

3.3 Relationship between socio-demographic characteristics, sports participation and overall values

The table displays Spearman's Rho correlations between socio-demographic characteristics, sports participation and the values studied, highlighting several significant relationships. For instance, a moderate negative relationship is observed between gender and the discovery and enhancement of potential ($r = -0.316$), as well as the dissemination of communal values ($r = 0.455$). The practice of physical education has been found to be positively correlated with the promotion of gender equality and negatively correlated with other values. Furthermore, the frequency of club sports has been found to be significantly linked to the dissemination of values of living together, while the duration



of school sports has been found to be significantly linked to the discovery and enhancement of potential.

Variables	1	2	3	4	5	6	7	8	9	10	11
1. Gender	1.000										
2. Age	-.257**	1.000									
3. Educational level	-.237**	.947**	1.000								
4. Place of residence	-.150**	0.037	0.034	1.000							
5. PE practice	-.129*	.444**	.409**	0.001	1.000						
6. Length of time at school	.203**	.178**	.168**	-0.070	-0.039	1.000					
7. Club sports	-.153**	-0.049	-0.034	-.304**	-0.089	.196**	1.000				
8. Frequency of club sports	.193**	0.084	0.082	0.002	-.111*	0.099	-.160**	1.000			
9. Promotion of gender equality	-0.018	-0.033	-0.016	0.039	.125*	0.093	-.121*	.113*	1.000		
10. Discovery and Development of Potential	-.316**	-.223**	-.219**	.483**	0.022	-.273**	-.148**	-.174**	0.041	1.000	
11. Disseminating the Values of Living	.455**	-.266**	-.259**	-.234**	.128*	0.000	-.196**	-.115*	.307**	0.020	1.000
Together											

*Significative, ** Très Significative

4 Discussion

A thorough analysis of the results reveals contrasting trends in the influence of the physical education and sport (PE) programme on gender equality and pupils' personal development, particularly through school basketball. The absence of any significant effect on the promotion of gender equality, despite regular exposure to PE, raises questions about the underlying mechanisms that perpetuate gendered representations in educational settings (Dhiman, 2023). This finding stands in contrast to the findings of several studies that have demonstrated that integrating an inclusive approach and varied teaching methods in PE can foster an egalitarian climate and enhance girls' participation in subjects that are traditionally dominated by boys (Salvatori & Cherubini, 2024). However, the differential impact of gender, age, and place of residence on the development of potential and the dissemination of values of living together underscores the predominant influence of contextual and social factors (Martín-Rodríguez et al., 2024). This finding aligns with the conclusion that sport in schools functions as a catalyst for psychosocial development, provided



that it is complemented by suitable teaching methods. These observations underscore the necessity for PE programmes to extend beyond mere sports practice, incorporating explicit educational components aimed at deconstructing gender stereotypes and promoting equity (Jiménez Cortes & Triviño Cabrera, 2023).

The impact of sport in schools and associations on the development of the values studied has yielded equivocal results. The absence of a statistically significant relationship between the promotion of gender equality and the length of participation in school sports suggests that mere exposure to physical exercise is insufficient to deconstruct gender stereotypes. These observations are consistent with research indicating that sports socialisation remains influenced by cultural norms (Kovács & Szakál, 2024), underscoring the necessity for an explicit educational approach to effect substantial transformation in gender representations. Conversely, the positive relationship between participation in club sports and the development of potential suggests that extracurricular activities offer greater opportunities for learning and self-improvement (Aliu & Aigbavboa, 2023). The findings of this study are in alignment with the extant research which demonstrates that structured, individualised coaching in sports clubs fosters the development of personal skills and the self-fulfilment of young athletes (Palmer, 2021). Moreover, the correlation between the frequency of club sports and the dissemination of social values underscores the significance of repeated social interactions in the acquisition of socio-emotional skills, in accordance with the notion that sports environments foster cooperative learning and mutual respect (Zhou & Colomer, 2024). These findings imply that sports clubs, due to their organisational framework and oversight, provide a conducive environment for the cultivation of psychosocial skills, which may serve as a catalyst for enhancing school programmes (Murray et al., 2024).



The correlations identified between socio-demographic characteristics and the values studied provide insight into the complex dynamics governing the impact of PE on pupils' personal development. The moderate negative relationship between gender and the enhancement of potential, as well as the dissemination of values of living together, reflects the persistence of gender disparities in the commitment to and recognition of sporting skills. These results are consistent with studies showing that girls generally receive less support and encouragement in sport (Bevan et al., 2021), which limits their perception of competence and their long-term investment (Kovács & Szakál, 2024). The present study sought to ascertain the correlation between the duration of participation in school-based sporting activities and the subsequent identification of latent abilities (Maresova et al., 2023). The findings indicated that protracted engagement in structured physical activity facilitates enhanced identification and utilisation of individual capacities. This observation lends further support to the conclusions emphasising the significance of continuity and progression in motor and psychosocial learning. Moreover, the The significant relationship between the frequency of club sports and the dissemination of values of living together highlights the essential role of repeated interpersonal interactions in the development of social skills, which is in line with perspectives highlighting the contribution of sport to the formation of social capital and social inclusion (Karstensen et al., 2024). These results highlight the need to create inclusive and equitable sporting environments, where girls and boys benefit from the same opportunities for development and recognition.

This study sheds light on the contributions – as well as the limitations – of physical education (PE) in promoting gender equality and the personal development of pupils through school basketball.

While certain dimensions, such as the enhancement of potential and the dissemination of values of



living together, are significantly influenced by sports participation and socio-demographic characteristics, the promotion of gender equality remains an issue requiring more targeted educational interventions (Guthridge et al., 2022). The findings underscore the necessity for an integrated approach, encompassing inclusive pedagogical strategies and diversified sporting practices, to optimise the beneficial impacts of sport on all pupils, irrespective of their gender or medical history (Ben Rakaa et al., 2024a). The integration of teaching programmes that emphasise gender diversity, deconstruct stereotypes, and empower pupils appears to be a promising approach to ensure more equitable and effective physical education (Bonacin Braga et al., 2024). One such strategy might be the integration of workshops into PE programmes that raise awareness of gender stereotypes, provide examples of inclusive role models, and include mixed-gender sports activities (Salvatori & Cherubini, 2024). These measures could reinforce the impact of sports activities on gender equality. Such an approach has the potential to create more inclusive and equitable sporting environments, thereby promoting the development of all students, irrespective of their gender or background (Ben Rakaa et al., 2024; Greco et al., 2024).

5 Conclusion

In conclusion, the present study corroborates the notion that school basketball has the capacity to exert a substantial influence on the personal development of pupils, whilst concomitantly promoting the values of living together. However, the results of the study indicate the necessity to fortify PE programmes in order to address gender equality issues with greater efficacy. Future research could explore the impact of specific pedagogical strategies, such as gender equality workshops or inclusive role models, in maximising the educational and social benefits of school



basketball. These approaches have the potential to engender more inclusive and equitable sporting environments, thereby fostering the development of all pupils, regardless of their gender. Finally, it would be relevant to study the long-term impact of these programmes on young people's attitudes and behaviour, in order to better understand how the skills acquired on the court translate into their daily lives and future social integration.

The limitations of the present study are rooted in the specific school context in which it was conducted, which may have influenced the scope and outcomes of the results. The variability in resources allocated to PE, teacher training, and sports infrastructure across schools could have a significant impact on the effectiveness of the programme. The scarcity of adapted equipment or teachers trained in inclusive pedagogy in some schools may have constrained the programme's potential impact on gender equality and personal development. Furthermore, cultural and social norms specific to the Moroccan context, i.e. the location in which the study was carried out, could influence results in unique ways, e.g. in societies where gender roles are strongly entrenched, the positive effects of basketball could be mitigated by wider social resistance.

6 References

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