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Pedagogical Models in Physical Education and Their Impact on Socially, Culturally, and/or Economically Disadvantaged Students Through Social Justice: A Systematic Review

Abstract

This systematic review analysed pedagogical models in Physical Education (PE) designed to promote social justice among socially, culturally, and/or economically disadvantaged students. Following PRISMA 2020 guidelines, studies published between 1975 and 2025 were identified through five databases and grey literature. Eight studies met the inclusion criteria, mainly conducted in Spain, the United States, Canada, South Korea, and the United Kingdom. The Teaching Personal and Social Responsibility (TPSR) model and the Sport Education Model (SEM) were the most frequently applied. Both models showed positive effects on personal and social responsibility, prosocial behaviour, inclusion, intercultural competence, motivation, and emotional intelligence, supporting their capacity to foster more equitable and inclusive PE environments. However, most studies presented methodological limitations, including small samples, convenience sampling, and limited experimental control, resulting in moderate-to-serious risks of bias. Despite these weaknesses, the evidence supports the potential of models-based pedagogies to address educational inequalities and promote socially responsive PE.

Keywords: Social Justice; Critical methodologies; Social Inclusion; TPSR model

1. Introduction

Education is a fundamental element in all societies, and educational inequality is one of the greatest challenges contemporary communities face (Nurse & Melhuis, 2021). These inequalities, framed by the increased difficulty of accessing quality education and the environments in which learning takes place, lead to higher rates of school failure and poorer educational outcomes (Grimm et al., 2024). Such inequalities are deeply rooted and multifaceted, and resource limitations result in diminished academic success, particularly in vulnerable contexts (Da Silva et al., 2024; Wang, 2024). Consequently, there is a pressing need to foster collective responsibility to support the most vulnerable individuals and students who are disadvantaged due to social, economic, and/or cultural factors (UNESCO, 2020). Although most inequalities are linked to socioeconomic factors such as income or social class, new forms of inequality are emerging, including gender-based and ethnic segregation (Barnes, 2007; Pliogou et al., 2025). This segregation often manifests through differential access to schools, curricular opportunities, and institutional expectations, reflecting broader structural and cultural biases that limit equal participation. In this context, the present study aims to systematically review how pedagogical models in Physical Education (PE) have been implemented to promote social justice among students from socially, culturally, and/or economically disadvantaged backgrounds.

PE often portrayed as a neutral and universal space within the school curriculum, is not exempt from structural dynamics of inequality and may reproduce exclusionary patterns that particularly affect students in disadvantaged settings (Fitzpatrick, 2019; Walton-Fisette & Sutherland, 2018). In light of this, teaching for social justice becomes critical, as it entails providing educational structures and experiences through which students can

understand the world by developing a critical awareness of themselves and others (Chapman & Hobbel, 2010). Today, PE is recognized not only as an essential component of the school curriculum but also as a space for holistic development where students strengthen their motor, social, and emotional skills (UNESCO, 2015). However, its teaching does not occur in a vacuum, but rather within contexts marked by structural inequalities related to economic, social, and cultural factors. These inequalities do not operate in isolation; dimensions such as gender, ethnicity, or sexual orientation can influence the educational context, shaping environments in which historically marginalized groups experience differentiated opportunities and recognition (Harrison & Clark, 2016; Hortigüela et al., 2025; Walton-Fisette & Sutherland, 2018). Thus, PE has historically functioned as a normative space that emphasizes physicality and competitiveness, often reproducing patterns of exclusion that reinforce social and cultural differences and, consequently, marginalize certain social groups (Fitzpatrick, 2019). However, the pedagogical approach and teaching methodology adopted in PE play a crucial role in either perpetuating these inequalities or promoting inclusion, as they determine the extent to which students from disadvantaged backgrounds can find meaningful participation, recognition, and success within the subject (Oliver & Kirk, 2015).

Students from disadvantaged backgrounds often face significant barriers to accessing and participating in equitable PE experiences. Although PE has frequently been framed as a subject grounded in social justice and strong pedagogical values (Walton-Fisette & Sutherland, 2018), its enactment has often reflected the predominance of a "white, heterosexual, non-disabled" normative ideal that reinforces existing hierarchies (Hortigüela et al., 2025). This normative ideal, however, does not reflect the actual diversity among students, where difference is present (Harrison & Clark, 2016). Within PE, the concept of social justice holds that all students, regardless of sex, race, or background, should have the right to equitable opportunities to participate in classes and sports activities (Walton-Fisette & Sutherland, 2018). While PE has the potential to play a crucial role in promoting equity and social inclusion (Lleixà & Nieva, 2020), it is essential that teachers foster values of inclusion and equity through innovative teaching methodologies and pedagogical models (Pérez-Pueyo et al., 2021).

In this regard, pedagogical models in PE have evolved from traditional approaches centered on direct instruction toward more inclusive and participatory strategies. These

models are not neutral methodological proposals but rather frameworks that respond to specific conceptions of what, how, and for whom learning occurs. In particular, models grounded in critical pedagogy have proven effective in promoting social justice within educational contexts (Fitzpatrick, 2019). According to Pérez-Pueyo et al. (2021), pedagogical models can be classified in various ways, with four being considered the foundational ones: Cooperative Learning, which fosters collaboration and mutual support among students, reducing social exclusion and promoting equity (Casey & Goodyear, 2015); Sport Education, which emphasizes equitable participation and the inclusion of all students in authentic and meaningful learning experiences through modified participant roles (Hastie & Casey, 2014); Teaching Personal and Social Responsibility (TPSR) model, which integrate the learning of educational values with didactic content (Hellison, 1985); and the Teaching Games for Understanding Model, which promotes students' active and reflective participation in understanding the game, fostering critical and cooperative skills (Bunker & Thorpe, 1982). In addition to these, several emerging models (e.g., Attitudinal Style, Service-Learning, Health-Oriented PE, and Meaningful PE) have gained increasing attention in recent years and have been implemented in diverse PE contexts. These approaches focus on improving aspects such as autonomy and responsibility (Fernández-Río e Iglesias, 2024; Pérez-Pueyo et al., 2021) and on fostering critical understanding of social justice and prosocial competencies (Ruiz-Montero et al., 2021).

Given the characteristics of these models, their potential impact on students from socially, culturally, and/or economically disadvantaged contexts has begun to receive attention in the literature. Research indicates that PE grounded in social justice can enhance students' critical understanding of social inequalities and leadership skills (Lynch & Curtner-Smith, 2019); foster inclusion and active participation through dynamic teaching–learning strategies (Alfrey et al., 2016); and even improve intrinsic motivation and academic performance (Schenker et al., 2019). Furthermore, recent studies, such as Heidrich (2024), show that pedagogies focused on social justice promote inclusion and a deeper understanding of inequalities by fostering empathy, cooperation, and responsibility.

Nevertheless, despite the numerous benefits of pedagogical models, several challenges persist in this field. Among the most relevant are institutional and structural resistance, as teacher education programs often lack critical pedagogical approaches (Fyall &

Metzler, 2019); cultural and social barriers, with resistance to change prevailing in normative models that view PE merely as a physical and technical discipline (Shelley & McCuaig, 2019); and a lack of resources and training that limiting its practical and effective implementation (Muros Ruiz & Fernández-Balboa, 2005). Moreover, as highlighted by Landi et al. (2016), pedagogical models should not be viewed as an unproblematic solution or a panacea for educational and social inequalities. Without a critical pedagogical lens, the implementation of models-based practice risks reproducing the very exclusionary dynamics it aims to dismantle. Therefore, the transformative potential of these models depends largely on teachers' commitment to inclusive and socially just perspectives, since pedagogical models alone are insufficient to address structural inequalities without a critical, reflective, and contextualized orientation.

In recent years, there has been a remarkable increase in the implementation of pedagogical models in PE (Fernandez-Rio & Iglesias, 2024), accompanied by a growing body of evidence highlighting the importance of fostering social justice within the field (Ruiz-Montero et al., 2021; Schenker et al., 2019; Walton-Fisette et al., 2018). However, despite these parallel developments, little is known about how pedagogical models have been specifically applied to promote social justice and inclusion among students from vulnerable or disadvantaged backgrounds. Therefore, the aim of the present study is to conduct a systematic review of the application of pedagogical models in PE within socially, culturally, and/or economically disadvantaged contexts, to identify which models have been implemented and which variables have been analyzed across studies. Specifically, this study seeks to examine the available evidence on their effectiveness, contrast methodological strengths and limitations, and provide grounded recommendations enabling teachers and researchers to incorporate critical and innovative pedagogical practices. To the best of our knowledge, this is the first systematic review that explicitly connects the use of pedagogical models with the promotion of social justice in PE. While recent research has provided significant theoretical and research-based guidance through frameworks such as 'Pedagogies for Social Justice' (Gerdin et al., 2021; Linnér et al., 2022; Philpot et al., 2021) and the 'Socially-Just Teaching Personal and Social Responsibility' (SJ-TPSR) approach (Jiménez-Parra et al., 2025; Scanlon et al., 2025), this study offers a systematic synthesis that provides a solid foundation for the development of educational proposals that promote a socially just, inclusive, and culturally responsive PE capable of addressing contemporary educational challenges.

2. Method

This section introduces the methodological approach used in the present systematic review, providing a foundation for the following paragraphs. Accordingly, the review was conducted in accordance with the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) 2020 guidelines (Page et al., 2021), ensuring rigor throughout the review. To formulate a clear and focused research question, the PICO framework (Population, Intervention, Comparison, and Outcome) was adapted for educational research (Bettany-Saltikov, 2012). Specifically, the research question guiding this review was: What is the impact of implementing pedagogical models in PE classes on students from socially, culturally, and/or economically disadvantaged backgrounds and their outcomes? The components were defined as: population (students from socially, culturally, and/or economically disadvantaged backgrounds in school); intervention (the implementation of pedagogical models in PE classes); comparison (between the control and experimental groups); and outcome (impact on variables linked to social justice).

2.1. Search strategy

A systematic search strategy was developed to identify literature on pedagogical models used in PE with socially, culturally, and/or economically disadvantaged students. This process involved searching several databases widely recognized in the fields of education and social sciences (Web of Science, Scopus, ERIC, PubMed, and Dialnet) to ensure a comprehensive and inclusive review of the available evidence. The search included peer-reviewed articles published between 1975 and June 2025 in both English and Spanish. This broad time frame was established due to the origins of some of the foundational pedagogical models in PE, particularly Teaching Personal and Social Responsibility (TPSR) model, together with other key models such as Siedentop's Sport Education Model, Bunker and Thorpe's Teaching Games for Understanding (TGfU), and the Cooperative Learning model adapted to PE by Dyson, Casey, and Fernández-Río. To minimize the risk of missing relevant studies, the second author repeated the same search procedure independently. In addition, grey literature was explored through institutional repositories, doctoral dissertation databases, and open-access educational resources. The references of the selected papers were also screened. Given the limited number of similar studies, no temporal restrictions were applied in the search strategy. The last search was conducted on 11 June 2025. This study was registered in PROSPERO (International

Prospective Register of Ongoing Systematic Reviews; Registration No. 1180192).

The search strategy employed a combination of Boolean operators ("AND", "OR", "*") and included four thematic blocks in both English and Spanish: (a) Physical Education (e.g., Physical Education, PE, School Sport, Phys Ed, physical activity in schools, school-based sport programs); (b) Pedagogical Models (e.g., pedagogical models, teaching models, instructional models, innovative teaching strategies, critical pedagogy, pedagogical innovation, teaching approach, instructional strategy, models-based practice); (c) Disadvantaged Students (e.g., disadvantaged students, vulnerable students, students at risk, minority students, marginalized students, low-income students, social disadvantage, economic disadvantage, ethnic minorities, social barriers, immigrant students, underserved students, students from deprived areas); and (d) Intervention (e.g., intervention, implementation, school-based intervention, educational program, prevention, teaching strategy, teaching experience, pedagogical application). A summary of this search strategy is presented in Table 1.

Table 1.

The strategy aimed to identify peer-reviewed articles, doctoral dissertations, and reports published in English or Spanish that explicitly examined the effects of pedagogical models in PE settings with disadvantaged student populations, with a focus on outcomes related to equity, inclusion, empowerment, and social justice education. The final search string combined the four thematic blocks using Boolean operators "AND", "OR" and "*" (In the databases that allow this function. In databases where truncation is not supported, exact terms were used). Final studies selection can be seen in Table 2.

Table 2.

2.2. Inclusion and exclusion criteria

The review of peer-reviewed papers and grey literature was conducted between 1982 and 2025 (the year of the first publication on a PE pedagogical model, Teaching Games for Understanding by Bunker and Thorpe, 1982). The inclusion criteria were: (a) studies implementing an intervention program in PE; (b) disadvantaged populations (socially, culturally, and/or economically disadvantaged students, including those at risk of school dropout, from minority or immigrant backgrounds, or with special educational needs); (c)

students from primary or secondary school (approximately 6–18 years old); (d) studies reporting outcomes from pedagogical models; and (e) publications written in English or Spanish. Exclusion criteria included: studies not conducted in PE; studies focusing on populations outside socially, culturally, and/or economically disadvantaged groups; theoretical papers; studies written in languages other than English or Spanish; studies not reporting results; participants outside the 6–18-year-old age range; and interventions conducted exclusively in extracurricular settings.

2.3. Studies selection and flow diagram

The search was performed across multiple databases covering the period from 1975 to 2025. Grey literature sources and manual searches of reference lists complemented the electronic search. A total of 295 records were initially retrieved. After removing duplicates (173), titles and abstracts were screened. After analyzing the titles and abstracts, 19 studies were selected based on the inclusion and exclusion criteria outlined in Section 2.2. Once the articles had been contrasted, and considering only studies conducted with disadvantaged populations (due to segregation or specific social or educational difficulties), a total of eight studies were selected (see Figure 1).

Figure 1.

2.4. Studies codification

The studies included in the systematic review were coded in an Excel database. The coding was reviewed by three of the paper's authors, with any doubts resolved through discussion among all authors. Finally, a simple table was made to describe the results, including authors; objective; sample; design; measures; results; main conclusions.

2.5. Quality assessment and risk of bias

The risk of bias was assessed using the ROBINS-I tool for assessing risk of bias in non-randomized studies of interventions (Sterne et al., 2016). Two authors (DMS and HGG) independently evaluated the methodological quality of the included studies. In cases of disagreement, a third author (MGL) was consulted to resolve discrepancies and reach consensus. To minimize potential evaluation bias, information regarding authorship, institutional affiliations, and correspondence addresses was blinded during the assessment. The ROBINS-I tool comprises seven domains for assessing risk of bias: (1)

bias due to confounding; (2) bias in selection of participants into the study; (3) bias in classification of interventions; (4) bias due to deviations from intended interventions; (5) bias due to missing data; (6) bias in measurement of outcomes; and (7) bias in selection of the reported result. Each domain was independently assessed by the two reviewers using the standard ROBINS-I criteria and categorized into one of five levels: low risk of bias, moderate risk, serious risk, critical risk, or no information. An overall judgment for each study was then derived, corresponding to the highest risk identified across domains.

To examine the methodological quality of the articles, the Quality Assessment of Intervention Studies was used (National Heart, Lung and Blood Institute, 2021). The scale contains 14 items to examine the following facts: (a) described as randomized; (b) treatment allocation-two interrelated pieces; (c) blinding; (d) similarity of groups at baseline; (e) dropout; (f) adherence; (g) avoid other interventions; (h) outcome measures assessment; (i) power calculation; (j) prespecified outcomes; (k) intention-to-treat analysis. Moreover, the items were marked as yes (1 point), no (0 points), not reported, or not applicable. In particular, it was scored 1 point if the article provided a sufficient description of the item or 0 point if the article provided an insufficient description of the item. In addition, it was marked as not reported if an insufficient or unclear description of the item was provided, while not applicable was assigned when the criterion of evaluation could not be applied. In accordance with the established criteria for the quality appraisal of controlled intervention studies, manuscripts were classified into three categories. Studies achieving more than 75% affirmative responses were designated as high quality; those with 50–75% affirmative responses were categorized as fair quality; and those with fewer than 50% affirmative responses were classified as poor quality. Correspondingly, a numerical score exceeding 9 denoted high quality, scores ranging from 7 to 9 indicated fair quality, and scores below 7 were considered indicative of poor methodological quality. The methodological quality of the examined studies was added in Table 3.

Table 3.

3. Results

3.1. Descriptive characteristics of the studies

3.1.1. General information

A total of eight studies conducted between 2005 and 2024 across a variety of international contexts (Spain, United States, South Korea, Canada, and the United Kingdom) were included in this review. The common denominator among these works was their focus on socially, culturally, and/or economically disadvantaged students, either due to risk of school dropout, minority or immigrant status, or special educational needs. Most interventions were implemented within formal PE lessons, although some were also embedded in extracurricular or cross-curricular programs.

3.1.2. Pedagogical models implemented

Most of the studies (n = 5) implemented Hellison's Teaching Personal and Social Responsibility model (TPSR) in school PE contexts. This model was used in Spain with adolescents at risk of exclusion (Escartí et al., 2006, 2010), in the United States with intact (naturally occurring group) high school groups (Wright & Burton, 2008), in South Korea with middle school students in vulnerable situations (Jung & Wright, 2012), and in Canada with adolescents to enhance accountability and prosocial behaviours (Balderson & Sharpe, 2005). Collectively, these works emphasized the development of responsibility, self-regulation, prosocial behaviour, and self-efficacy among socially, culturally, and/or economically disadvantaged students in Primary and Secondary PE.

Alongside TPSR, three studies applied the Sport Education model (SEM) in disadvantaged contexts. Puente-Maxera et al. (2020) examined the impact of Sport Education in culturally diverse elementary schools, while Puente-Maxera et al. (2023) analyzed its influence on responsibility and intercultural competence in vulnerable groups. In a similar line, Abellán and Segovia (2024) studied the integration of SEM in special education settings, highlighting the opportunities and challenges of adapting the model to students with disabilities.

3.1.3. Participants and educational stages

Sample sizes varied considerably, from small case studies of fewer than 20 participants (e.g., Escartí et al., 2006) to larger school-based interventions involving entire classes or cohorts (e.g., Puente-Maxera et al., 2023). The majority of studies were carried out in secondary education, targeting adolescents considered "at risk" due to behavioural, academic, or social factors. Nevertheless, research had also been conducted at the

elementary level (approximately 6–12 years old) (Puente-Maxera et al., 2020) and in special education centers (Abellán & Segovia, 2024). This range of settings demonstrates the applicability of pedagogical models across different stages of schooling and with populations experiencing various forms of disadvantage. Overall, the findings suggest that different pedagogical models tend to emphasize distinct, yet complementary, learning objectives. Together, these strands of evidence reinforce the potential of models-based practice, that is, the use of a diversity of pedagogical models or approaches, to advance the goals of equity, social justice, and inclusion in PE.

3.1.4. Research designs and methodologies

Methodologically, most studies employed qualitative or mixed-methods approaches, such as observational designs (Escartí et al., 2006), case studies (Jung & Wright, 2012), or pre–post quasi-experimental designs (Puente-Maxera et al., 2020; 2023). Data collection strategies included systematic classroom observations, validated questionnaires (e.g., self-efficacy, motivation, perceived competence), interviews with teachers and students, and reflective journals. While these approaches provide rich, context-sensitive insights, they also share limitations, such as small sample sizes, absence of randomization, and reliance on convenience groups, which restrict the generalizability of findings.

3.1.5. Main outcomes reported

Interventions based on TPSR enhanced socially, culturally, and/or economically disadvantaged students' responsibility, prosocial behaviour, classroom climate, and self-efficacy (Balderson & Sharpe, 2005; Escartí et al., 2010; Wright & Burton, 2008). Similarly, Sport Education contributed to improvements in emotional intelligence, intercultural competence, and inclusion (Abellán & Segovia, 2024; Puente-Maxera et al., 2020; 2023). Together, the evidence suggests that both TPSR and SEM, when applied in disadvantaged contexts, foster personal growth, social integration, and a sense of belonging among socially, culturally, and/or economically disadvantaged students.

In addition, the set of studies reviewed analyzed a broad range of psychosocial and educational variables, reflecting the multidimensional nature of pedagogical models. In TPSR-based interventions, the most frequently assessed variables were responsibility (personal and social), self-efficacy, and prosocial behaviours (Balderson & Sharpe, 2005; Escartí et al., 2006, 2010; Jung & Wright, 2012; Wright & Burton, 2008). These works

showed consistent improvements, particularly in students' capacity for self-regulation, leadership, and positive classroom interactions.

In contrast, studies employing the Sport Education model focused more strongly on emotional and social dimensions, such as school climate, intercultural competence, inclusion, motivation, and emotional intelligence (Abellán & Segovia, 2024; Puente-Maxera et al., 2020; 2023). The evidence indicates that Sport Education was effective in fostering cooperative group dynamics, promoting respect for diversity, and enhancing socially, culturally, and/or economically disadvantaged students perceived competence.

Overall, the distribution of variables suggests that TPSR interventions prioritize responsibility and prosocial development, while SEM-based approaches emphasize social inclusion, motivation, and intercultural learning. Both strands contribute complementary evidence, reinforcing the potential of models-based practice to advance the goals of equity, social justice, and inclusion in PE.

3.2. Quality assessment and risk of bias

The methodological quality of the included studies was evaluated using the ROBINS-I tool (Sterne et al., 2016). Overall, all studies were judged to be at serious risk of bias, primarily due to the use of intact groups, convenience sampling, and the absence of randomization or control groups (table 4). However, it should be noted that many of these methodological features reflect the practical and ethical constraints inherent to conducting intervention research with minors in school settings, where random assignment, strict experimental control, or participant selection procedures are often limited by institutional regulations, parental consent requirements, and the organizational structure of schools. Regarding the individual ROBINS-I domains (Table 2), all studies presented a serious risk of bias due to confounding (Item 1), since contextual factors such as teacher experience, class composition, or school environment could not be controlled. Similarly, selection of participants (Item 2) was rated as serious in most cases because students were intentionally or conveniently chosen (e.g., intact classrooms, at-risk youth programs). While these sampling strategies increase the potential for bias from a methodological standpoint, they are also common and often unavoidable in school-based research, particularly when interventions must be implemented within existing educational structures. The classification of interventions (Item 3) was generally rated as moderate risk, as most studies provided detailed descriptions of the intervention and, in

several cases, incorporated fidelity checks (e.g., Puente-Maxera et al., 2020; 2023). However, adaptation and flexibility in delivery limited standardization. Deviations from intended interventions (Item 4) tended to be low to moderate risk, since teachers were trained and fidelity was monitored, but program adjustments were common in practice.

Table 4.

Concerning missing data (Item 5), the risk was mostly low across studies, with very few reporting attrition (e.g., Puente-Maxera et al., 2020 reported two dropouts), although some articles did not provide sufficient information to make a clear judgment (e.g., Abellán & Segovia, 2024; Escartí et al., 2010). The measurement of outcomes (Item 6) was typically judged as moderate, given that most studies used validated instruments and/or structured observations, yet evaluators were often directly involved in program delivery, raising the possibility of bias. Finally, the selection of reported results (Item 7) was also rated as moderate, as preregistration was not reported and selective outcome reporting could not be ruled out. In conclusion, the evidence of the risk of bias assessment demonstrates consistent patterns: while the interventions were implemented with good fidelity and measured using validated instruments, the overall internal validity of findings is limited by the lack of randomized designs and reliance on convenience samples. These limitations should also be interpreted in light of the ethical, institutional, and contextual constraints of conducting intervention research with minors in school settings, where highly controlled experimental designs are often difficult to implement. The methodological quality assessment revealed that 62.5% of the studies were classified as low quality (n = 5), while 37.5% were considered of fair quality (n = 3). None of the studies were randomized controlled trials (Item 1 = 0%, n = 0), and only one study employed proper randomization of participants (Item 2 = 12.5%, n = 1). Treatment allocation was not concealed in any study (Item 3 = 0%, n = 0). Regarding blinding, no study implemented participant blinding (Item 4 = 0%, n = 0), whereas three studies included blinded evaluators (Item 5 = 37.5%, n = 3), and five studies had comparable groups at baseline (Item 6 = 65.5%, n = 5). Dropout rates were below 20% at the end of the intervention in six studies (Item 7 = 75%, n = 6), and three studies reported differences in dropout between groups of less than 15% (Item 8 = 37.5%, n = 3). All eight studies demonstrated high adherence to the intervention (Item 9 = 100%, n = 8), six studies controlled for or avoided other interventions (Item 10 = 75%, n = 6), and seven studies

utilized valid and reliable outcome measures (Item 11 = 87%, *n* = 7). No study reported a sample size sufficient to detect differences with at least 80% power (Item 12 = 0%, *n* = 0). All studies assessed outcome values prior to the intervention (Item 13 = 100%, *n* = 8), and only one study applied an intention-to-treat analysis (Item 14 = 12.5%, *n* = 1).

4. Discussion

The objective of this systematic review was to identify and analyze the pedagogical models implemented in PE to promote social justice among socially, culturally, and/or economically disadvantaged students contexts. Likewise, it was also intended to examine its effectiveness, strengths and methodological limitations. The results of the eight studies analyzed showed that the pedagogical models most widely implemented in the educational context were the TPSR and the SEM. However, the fact that only eight papers met the inclusion criteria, and the vast majority focused on TPSR, warrants critical reflection. As Hemphill and Wright (2025) highlight in relation to TPSR scholarship, there is a considerable amount of 'good' practical work taking place in this space that remains unrecognized in academic literature, underscoring a significant gap between daily pedagogical practice and formal research dissemination. This raises the question of whether TPSR's prominence in the literature reflects its actual superiority, or simply its popularity and ease of operationalization, leaving other potentially impactful models underexplored.

However, the evidence from the studies included in this review suggests that these models increase both personal and social responsibility levels among school-aged socially, culturally, and/or economically disadvantaged students students in PE settings, reducing disruptive behaviours and favouring prosocial behaviour, positive conflict resolution, cooperation, and respect (Balderson & Sharpe, 2005; Escartí et al., 2006, 2010; Jung & Wright, 2012; Wright & Burton, 2008). Likewise, it has been shown that the application of these models also improves the self-efficacy of students, and generates a strengthened perception of their own abilities, as well as the inclusion of students from diverse backgrounds, thus promoting an inclusive and equitable atmosphere in PE classes, in which involvement and a sense of belonging among socially, culturally, and/or economically disadvantaged students students is increased and intercultural competence is acquired (Abellán & Segovia, 2024; Puente-Maxera et al., 2020, 2023). Although the three studies cited above agree in highlighting the benefits of the SEM as a pedagogical strategy to promote inclusion and equitable participation in PE classes, they present

relevant differences with respect to the population analyzed (Special Education and Primary respectively), and the approach and main results obtained, since Abellán and Segovia (2024) emphasize the inclusion of students with disabilities, while Puente-Maxera et al. (2020, 2023) focus on the socio-emotional impact on culturally diverse groups in PE classes.

On the other hand, the classroom climate is also favourable, and satisfaction of basic psychological needs is enhanced alongside increased self-determined motivation. Specifically, by promoting moral reflection and autonomous decision-making, TPSR enhances the internalization of values that transcend the educational field. Hence, the SEM contributes to generating democratic environments of participation and mutual respect. Therefore, it can be stated that according to the results of the studies analysed between 2005 and 2024, the application of these pedagogical models in PE classes produced positive effects on the personal, social and emotional development of disadvantaged students analysed (Abellán & Segovia, 2024; Balderson & Sharpe, 2005; Escartí et al., 2010; Jung & Wright, 2012; Puente-Maxera et al., 2020, 2023; Wright & Burton, 2008). This evidence aligns with studies highlighting the fundamental role of critical pedagogies in developing empathy, leadership, and social agency in young people (Heidrich, 2024; Lynch & Curtner-Smith, 2019). The study by MacMaolir and McGillicuddy (2022) demonstrated that implementing critical pedagogies fosters greater confidence, motivation, empathy, and commitment to addressing the social problems affecting young people. Furthermore, socially, culturally, and/or economically disadvantaged students expressed a sense of belonging to the group and increased their positive relationships with peers and adults, even developing a critical awareness of their environment and social inequalities. Another finding showed that young people who participated in this type of critical pedagogy became much more involved in collaborative activities, assuming leadership roles and demonstrating greater initiative to change their reality, even feeling capable of influencing social transformation. All of this evidence confirms that critical pedagogies not only improve academic performance but also promote values and skills fundamental to the holistic development and social transformation of young people.

The implementation of TPSR showed homogeneous effects in different cultures and contexts, favouring the development of social and personal responsibility both in adolescents at risk of exclusion or with behavioural difficulties in Spain and in North

American and Asian contexts (Escartí et al., 2006; Jung & Wright, 2012; Wright & Burton, 2008). Similarly, SEM was effective in promoting intercultural inclusion and competence in multicultural schools and in special education, thus corroborating the potential of these models to promote equity (Abellán & Segovia, 2024; Puente-Maxera et al., 2020, 2023) and social and emotional development among students, especially in contexts characterized by vulnerability or cultural diversity (Escartí et al., 2010; Puente-Maxera et al., 2020; Wright & Burton, 2008). However, the predominance of TPSR in the reviewed literature invites critical reflection: why is it the most frequently used model, and should it be the 'chosen' framework for advancing social justice in PE? TPSR's dominance likely stems from its explicit, foundational focus on life skills, values promotion and relational dynamics, offering teachers a structured yet adaptable framework to address immediate behavioural and social challenges in vulnerable contexts (Aygun et al. 2024; Shen et al. 2022). Similarly, the Sport Education Model (SEM) contributes to the social justice agenda by democratizing the PE space, aiming to dismantle traditional skill-based hierarchies through equitable role-taking and shared group ownership, SEM has emerged as a heavily researched, student-centred model that uses equitable role-taking and season-long team affiliation to foster inclusion, prosocial attitudes, and more democratic, participatory learning environments (Farias et al. 2017; Yao et al. 2025). But, a critical perspective demands acknowledging that neither TPSR nor SEM should be uncritically accepted as the definitive 'chosen' models. Therefore, rather than crowning a single model, the social justice agenda in PE is better served through a critical models-based practice (Azzarito et al. 2017). This involves intentionally selecting, combining, and redeveloping models with a more explicit equity focus (such as the SJ-TPSR approach) to address the multifaceted nature of educational inequality. Further research should critically examine not only outcomes but also the underlying assumptions of each model, interrogating whose interests are served and whose voices may remain marginalized.

On the other hand, the effectiveness of implementation depends largely on contextual factors such as teacher training, commitment and beliefs, the degree of implementation fidelity, the contextual adaptation of pedagogical strategies to the idiosyncrasies of the school, and critical training and institutional support (Alfrey & O'Connor, 2022; Luguetti & Oliver, 2021; Lynch & Curtner-Smith, 2019). Therefore, success is not automatic and requires contextual adjustments, since PE classes are not neutral spaces but socially conditioned contexts where structures of power, class, gender, and ethnicity are

reproduced (Fitzpatrick, 2019; Walton-Fisette et al., 2018). This underlines the ethical responsibility of teachers to engage reflexively, questioning not only pedagogical choices but also the systemic inequities that may shape student participation and achievement.

In methodological terms, the heterogeneity of designs and the tendency to use qualitative or mixed methods provide interpretative richness in the studies analyzed but also weaken the robustness of the evidence found. Most of the studies reviewed presented serious methodological risks, which affected their methodological quality. Specifically, we refer to the absence of randomization, the use of convenience and small samples, the lack of control groups, and the limited reporting of statistical analyses (Escartí et al., 2006; Puente-Maxera et al., 2020, 2023). In addition, pre-post design and direct participation of assessors increased the risk of bias. These aspects, together with the limited number of existing studies, limit the generalizability of the results and the true magnitude of the interventions' effects (Sterne et al., 2016). Even so, these limitations do not invalidate the internal consistency of the results, since they were obtained using validated instruments and moderate-fidelity procedures. Despite these limitations, the findings reinforce the idea that both models are useful pedagogical tools to address educational inequalities and promote more inclusive, equitable, and emotionally positive contexts (Abellán & Segovia, 2024; Puente-Maxera et al., 2023), while offering a solid basis to guide both educational practice and new, more rigorous and contextualized lines of research. In practice, these findings support the adoption of model pedagogies in vulnerable settings, although specific adaptations and continuous teacher training are required. Future studies should explore how TPSR and SEM interact with structural inequalities, and whether alternative or hybrid models could more directly address systemic barriers.

Currently, PE is perceived in many settings as a discipline focused on motor competence and performance assessment, which makes it difficult to incorporate approaches focused on inclusion and equity (Walton-Fisette et al., 2018). The joint application of these pedagogical models contributes to redefining PE as an agent of social transformation and recognition, capable of responding to contemporary inequalities by strengthening critical citizenship. In this way, spaces will be created where socially, culturally, and/or economically disadvantaged students understand the dynamics of inequality and learn to act in the face of it (Heidrich, 2024). This is consistent with the proposals of critical pedagogy (Fitzpatrick, 2019; Walton-Fisette et al., 2018). Adopting these models should not be understood as an isolated methodological innovation, but as an ethical and political commitment to educational equity (Fraser, 2008). On their own, frameworks like TPSR

and SEM cannot single-handedly 'solve' systemic issues such as poverty, marginalization, or systemic exclusion. If implemented mechanically or without a critical lens, they risk masking these structural inequalities rather than challenging them. Therefore, implementing pedagogical models in vulnerable contexts implies assuming a teaching posture committed to social transformation, where the educator constantly reflects on their own biases and actively redevelops these models to challenge, rather than reproduce, the status quo. Teaching PE must also be teaching how to live together, to cooperate, and to question structural inequalities. This perspective emphasizes that social justice in PE is not an outcome guaranteed by any model, but a continuous, critical practice requiring reflection, adaptation, and ethical vigilance.

This systematic review has several strengths. On the one hand, it brings together, for the first time, international evidence on the application of pedagogical models in vulnerable contexts, integrating studies with different methodological approaches, both qualitative and quantitative. In addition, it is necessary to highlight the broad and up-to-date nature of the analysis, which contributes substantially to understanding the relationships among PE, critical pedagogy, equity, and social justice, offering a valuable perspective for educational transformation. Likewise, the solid theoretical link of the work with paradigms such as critical pedagogy and transformative education is also highlighted, which strengthens the interpretation of the findings and their relevance.

5. Limitations and future research lines

Even so, this systematic review also has certain limitations, such as the predominance of qualitative or quasi-experimental studies without randomization, and the limited geographical and cultural diversity of the studies, as most are concentrated in a few countries (Spain, Canada, and the USA). The heterogeneity of variables and instruments across studies makes it difficult to compare results across studies and synthesize findings, and the absence of longitudinal research also limits the ability to examine sustained effects over time. Finally, although the risk of bias assessment indicated methodological limitations across studies, these findings should be interpreted in light of the ethical and institutional constraints inherent to school-based intervention research with minors. In many cases, design features such as intact classrooms or convenience sampling reflect the realities of educational settings rather than poor research practices.

Based on the limitations identified, future lines of research should be oriented towards carrying out experimental studies with larger and more representative samples and longitudinal and mixed designs that allow assessing the sustained effect of the TPSR and

SEM models on the different psychosocial dimensions, as well as their applicability in broader and more diverse geographical and sociocultural contexts, especially in rural areas, where educational inequality is more pronounced. It is essential to promote research that gives voice and prominence to historically marginalized groups and explores experiences from an intersectional perspective (gender, ethnicity, class, and ability). In addition, the design and validation of specific instruments that allow comparisons across studies and contexts are recommended, as is the evaluation of continuous teacher training aimed at social justice. Finally, it is essential to develop educational transfer and innovation projects that articulate collaborations among schools, community entities, and universities, facilitating the real and sustainable integration of these pedagogical models into the daily practice of PE.

6. Practical applications

The findings of this review offer practical applications and proposals to support the integration of strategies based on the TPSR and SEM models across a variety of educational and community settings. In the PE classroom, it is recommended to adopt teaching within a models-based practice approach, where cooperative dynamics and rotational shared leadership are incorporated and where socially, culturally, and/or economically disadvantaged students can actively reflect on and act on values such as respect, empathy, and justice (Casey & Goodyear, 2015; Escartí et al., 2006, 2010; Puente-Maxera et al., 2020; Wright & Burton, 2008). In the same way, spaces for dialogue should also be created to address issues of gender, ethnicity and inequality from the perspective of physical practice (Harrison & Clark, 2016). Although most of the reviewed studies focused on formal PE contexts, some evidence suggests that these pedagogical models may also have potential for application in extracurricular or community sport programs, particularly when working with young people at risk and promoting their inclusion and personal development (Puente-Maxera et al., 2023). These proposals enable scientific evidence to be translated into daily practice, fostering more inclusive, critical and transformative educational processes. To maximize the impact of these proposals, specific considerations must be made for different stakeholders. For PE teachers, this evidence should inform a shift towards consciously adapting models like TPSR to explicitly address social justice issues in their specific contexts, integrating reflection and action into every lesson, for instance the socially-just TPSR approach of Scanlon et al. (2025), an adaptation highly supported by teachers' own experiences in practice (Hortigüela-Alcalá et al., 2025). For teacher educators, these findings highlight

the necessity of training pre-service teachers not just in the procedural steps of these models, but in the critical pedagogy required to enact them meaningfully with disadvantaged youth. Finally, for policymakers and school administrators, this review emphasizes the need to provide schools in vulnerable areas with the necessary resources, curriculum flexibility, and continuous professional development so teachers can effectively implement and redevelop these models for social transformation

7. Conclusions

The available evidence supports the potential efficacy of the TPSR and SEM pedagogical models to promote inclusion, equity, and socio-emotional development in students from disadvantaged backgrounds but requires interpretative caution and methodological quality reinforcement in future research. Specifically, TPSR promotes self-regulation, responsibility and prosocial behaviour, while SEM promotes cooperation, empathy and intercultural competence (Escartí et al., 2010; Puente-Maxera et al., 2023). The review shows that both pedagogical models offer didactic strategies that are transferable across different educational levels and contexts where students may be at risk of exclusion or face social, cultural, and/or educational adjustment challenges, although their impact depends on the quality of implementation, institutional support, and teacher training and commitment.

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Table 1. Thematic blocks and search terms used in the database search strategy

Thematic block	***Search Terms (English and Spanish)***
Physical Education	Physical Education, PE, Phys Ed, physical activity in schools, school-based sport programs, Educación Física, EF, deporte escolar, actividad física en la escuela, programas deportivos escolares
Pedagogical Models	pedagogical models, teaching models, instructional models, model-based practice, innovative teaching strategies, Critical Pedagogy, Teaching Approach, Cooperative Learning, Sport Education Model, Teaching Games For Understanding (TGfU), Teaching Personal And Social Responsibility (TPSR), Attitudinal Style, Service-Learning, health-based physical education, modelos pedagógicos, modelos de enseñanza, modelos instruccionales, práctica basada en modelos, estrategias didácticas innovadoras, Pedagogía Crítica, Enfoques De Enseñanza, Aprendizaje Cooperativo, Modelo De Educación Deportiva, Modelo De Comprensión Del Juego (TGfU), Modelo De Responsabilidad Personal Y Social (MRPS), Estilo Actitudinal, Aprendizaje-Servicio, educación física para la salud
Disadvantaged Students	disadvantaged students, vulnerable students, students at risk, minority students, marginalized students, low-income students, social disadvantage, economic disadvantage, ethnic minority, social barriers, immigrant students, underserved, students from deprived areas, low resources, estudiantes desfavorecidos, estudiantes vulnerables, estudiantes en riesgo, minorías étnicas, estudiantes marginados, estudiantes de bajos recursos, desventaja social, desventaja económica, barreras sociales, alumnado inmigrante, entornos vulnerables, pocos recursos.
Intervention	intervention, implementation, school-based intervention, educational program, prevention, teaching strategy, teaching experience, pedagogical application, intervención, implementación, intervención escolar, programa educativo, prevención, estrategia didáctica, experiencia docente, aplicación pedagógica

Table 2. Characteristics of the studies included in the review.

Author (year)	Sample	Model	Design	Measures	Main outcomes
Abellán & Segovia (2024)	12 youth with intellectual disabilities	Sport Education	Qualitative (collaborative action)	Field notes, observation	SE applicable in special education with adaptations
Balderson & Sharpe (2005)	4 at-risk primary school groups (~100 students)	TPSR + Accountability	Qualitative (multiple baseline)	Observation, interviews, teacher diaries	TPSR + accountability combination effective for participation and responsibility
Escartí et al. (2006)	13 at-risk adolescents	TPSR	Observational (20 sessions)	Behaviour checklists	TPSR effective to improve social responsibility in at-risk adolescents
Escartí et al. (2010)	30 adolescents (15 exp., 15 ctrl.)	TPSR	Quasi-experimental with follow-up	Self-efficacy scales, interviews	Significant improvements in responsibility and self-efficacy
Jung & Wright (2012)	6 at-risk adolescents	TPSR	Quasi-experimental (20 PE sessions)	Interviews, observations, documents	TPSR reduced dropout risk and promoted responsibility
Puente-Maxera et al. (2020)	96 socially vulnerable secondary students	Sport Education	Quasi-experimental crossover	Responsibility and interculturality scales	SE effective, especially with fixed roles
Puente-Maxera et al. (2023)	77 primary students (64% immigrants)	Sport Education	Quasi-experimental (10 Colpbol sessions)	School climate, emotional intelligence, perceived competence	SE improved socio-affective learning in multicultural contexts
Wright & Burton (2008)	16 vulnerable adolescents	TPSR	Qualitative (action research)	Semi-structured interviews, field notes	TPSR fostered self-regulation and social development when systematically applied

Table 3. Risk of Bias Assessment of Included Studies Using the ROBINS-I Tool.

Authors	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7	Overal Judgment
Puente-Maxera et al. (2020)	S	S	M	L	L	L	M	S
Jung & Wright. (2012)	S	S	M	M	L	M	M	S
Escartí et al. (2006)	S	S	M	M	L	M	M	S
Wright & Burton (2008)	S	S	M	L	L	M	M	S
Puente-Maxera et al. (2023)	S	S	M	L	L	M	M	S
Abellán & Segovia (2024)	S	S	S	M	NI	M	M	S
Escartí et al. (2010)	S	S	M	M	NI	M	M	S
Balderson & Sharpe (2005)	S	M	M	L	L	L	M	S

Note. Item 1 = Bias due to confounding; Item 2 = Bias in selection of participants into the study; Item 3 = Bias in classification of interventions; Item 4 = Bias due to deviations from intended interventions; Item 5 = Bias due to missing data; Item 6 = Bias in measurement of outcomes; Item 7 = Bias in selection of the reported result. L = low risk of bias; M = moderate risk; S = serious risk; C = critical risk; NI = No information.

Table 4. Methodological Quality Assessment of Included Studies Using the ROBINS-I Tool.

Author(s)	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7	Item 8	Item 9	Item 10	Item 11	Item 12	Item 13	Item 14	Score	Quality
Puente-Maxera et al. (2020)	0	0	NA	0	1	1	1	NA	1	NA	1	0	1	NA	6	Low
Jung & Wright. (2012)	0	0	NA	0	0	1	1	NA	1	1	1	0	1	NA	6	Low
Escartí et al. (2006)	0	0	0	0	1	NA	0	NA	1	1	1	0	1	0	5	Low
Wright & Burton (2008)	0	0	NA	0	0	NA	0	NA	1	NA	1	0	1	NA	3	Low
Puente-Maxera et al. (2023)	0	0	NA	0	NR	1	1	1	1	1	1	0	1	NA	7	Fair Quality
Abellán & Segovia (2024)	0	0	0	0	0	NA	1	NA	1	1	0	0	1	NA	4	Low
Escartí et al. (2010)	0	0	0	0	1	1	1	1	1	1	1	0	1	1	9	Fair Quality
Balderson & Sharpe (2005)	0	1	0	0	0	1	1	1	1	1	1	0	1	0	8	Fair Quality
n (%)	0 (0%)	1 (%)	0 (0%)	0 (0%)	3 (%)	5 (%)	6	3	8 (100%)	6	7	0 (0%)	8 (100%)			-

Note. 1= Yes; 0 = No; NA= Not 4ra n4ble; NR = Not reported; item 1: Was the study described as randomized, a randomized trial, a randomized clinical trial, 4ra n RCT?; item 2: Was the method of randomization adequate (i.e., use of randomly generated assignment)? Adequate randomization: Randomization is adequate if it occurred according to the play of chance (e.g., computer generated sequence in more recent studies, or random number table in older studies).; item 3: Was the treatment allocation concealed (so that assignments could not be predicted)?; item 4: Were study participants and providers blinded to treatment group assignment?; item 5: Were the people assessing the outcomes blinded to the participants' group assignments?; item 6: Were the groups similar at baseline on important characteristics that could affect outcomes (e.g., demographics, risk factors, co-morbid conditions)?; item 7: Was the overall drop-out rate from the study at endpoint 20% or lower of the number allocated to treatment?; item 8: Was the differential drop-out rate (between treatment groups) at endpoint 15 percentage points or lower?; item 9: Was there high adherence to the intervention protocols for each treatment group?; item 10: Were other interventions avoided or similar in the groups (e.g., similar background treatments)?; item 11: Were outcomes assessed using valid and reliable measures, implemented consistently across all study participants?; item 12: Did the authors report that the sample size was sufficiently large to be able to detect a difference in the main outcome between groups with at least 80% power?; item 13: Were outcomes reported or subgroups analyzed prespecified (i.e., identified before analyses were conducted)?; item 14: Were all randomized participants analyzed in the group to which they were originally assigned, i.e., did they use an intention-to-treat analysis?

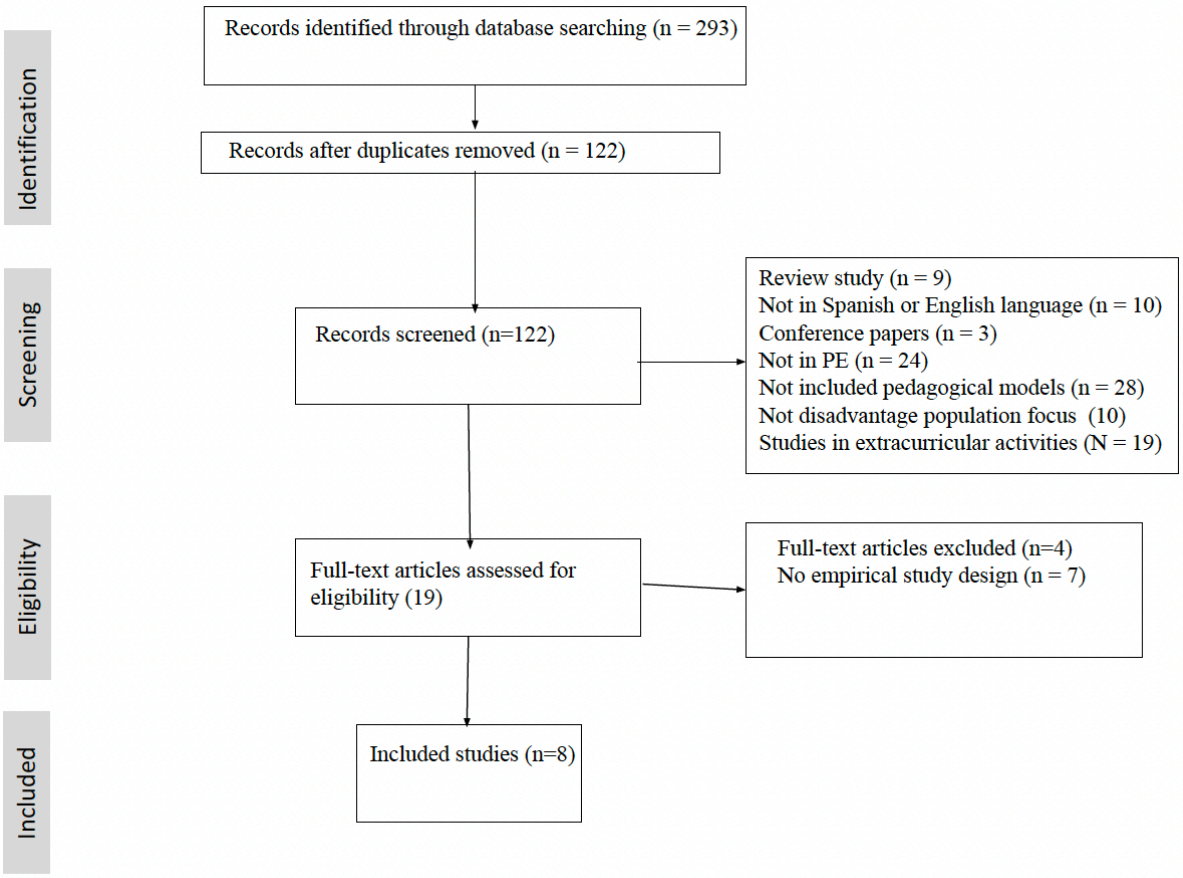

Figure 1. Flow diagram of the systematic review process