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Teachers' perceptions and experiences of gender in physical education across diverse cultural contexts

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Introduction: Physical Education (PE) plays a vital role in promoting lifelong wellbeing, with gender equity being a key component of both individual and community health. Understanding how gender is perceived and addressed in PE settings is essential for developing inclusive and effective educational practices. While gender has been widely studied in education, little comparative research has examined how PE teachers understand and address it in relation to curricula, pedagogy, and socio-cultural norms. This study explores the perceptions and experiences of primary school PE teachers in Finland and the Kurdistan Region of Iraq (KRI), focusing on how cultural, social, curricular, and pedagogical factors shape the positioning of gender in PE.

Methods: The study employed a qualitative approach using semi-structured, in-depth interviews with 14 PE teachers—eight from Finland and six from KRI to examine PE teachers' perceptions and experiences related to gender in PE. During the 60–90 min interviews, the PE teachers also looked at two typical PE lessons (both indoor and outdoor, each for a duration of 15 min) for fifth grade PE classes in the other region.

Results: The thematic analysis revealed several categories: in the KRI, these included gender roles, socio-cultural norms and attitudes, flexible pedagogy in PE, awareness of gender differences and impacts, and gender and curriculum; in Finland, the themes were pedagogical flexibility and freedom, and awareness of gender differences and impacts. Overall, the findings of this study indicate that both Finnish and KRI teachers reported that gender differences were not prominent in primary school, particularly at younger ages. Nonetheless, all teachers were aware of the potential impacts of gender on PE.

Discussion: The findings of this study revealed both similarities and differences in teachers' perceptions and experiences regarding PE teaching and activities, particularly when considering gender. Both Finnish teachers and those from the KRI demonstrated awareness of gender differences in physical abilities, emotions, and psychological traits. However, Finnish teachers primarily focused on fostering joy and encouraging movement tailored to each student's interests and circumstances. In contrast, KRI teachers also exhibited flexibility in designing activities that catered to the physical and emotional needs of both boys and girls. The results of this study can inform the development of more inclusive educational programs for PE teachers, equipping them with culturally adopted pedagogical approaches to reduce gender inequality in PE through innovative and contextually relevant methods that consider cultural and social factors.

KEYWORDS

physical education, gender, teachers, primary school, culture, Finland, Kurdistan Region of Iraq

Introduction

Physical education (PE) may play a crucial role in promoting a healthy lifestyle, aligning with the sustainable development goals outlined in Agenda 2030 (United Nations, 2018). Its benefits extend beyond physical health to also support mental, social, and emotional wellbeing for individuals. However, current global data shows that 31% adults and 81% of adolescents do not get enough physical activity (PA) (WHO, 2024a). According to the World Health Organization (WHO) in economically developed countries, inactivity can reach up to 70%, driven by factors such as changes in transportation, increased use of technology, and cultural shifts toward more sedentary lifestyles (2024a). These trends highlight the need for action to encourage PA in schools and communities. Globally, women are more likely to be inactive than men, with inactivity rates of 34% compared to 29%, and in some countries, this gender gap can be as wide as 20 percentage points (WHO, 2024b). Furthermore, there has been a historical exclusion and marginalization of girls in PE (Evans, 1989; Hill, 2015; Lagestad, 2017; Lamb et al., 2018; Tischler and McCaughtry, 2014), and research shows that girls have a lower activity level in PE than boys (Chen et al., 2014; Lagestad and Mikalsen, 2023; Viciano et al., 2016), where girls spent significantly more time in sedentary activity and less time in moderate activity compared to boys (Lagestad and Mikalsen, 2023). This highlights the ongoing need for targeted efforts to address these gender disparities and encourage PA for all demographics in different countries. Restrictive gender involvement in PE may hinder health and limit life choices for all (Levy et al., 2020).

Given the importance of PE both individually and collectively within society, innovative strategies are needed to motivate people of all ages, genders, and cultural backgrounds to become more active. One key approach is conducting more research on PE at the grassroots level, particularly in primary schools. Teachers are crucial in implementing PE, shaping students' self-esteem, attitudes toward physical activity, and engagement (Granero-Gallegos et al., 2023; Krings, 2023; Guo et al., 2023). Understanding how teachers perceive and experience their teaching is essential for identifying the challenges and opportunities for building positive attitudes and motivation toward PA equally for all students. However, few studies focus on how cultural, and social influences such as gender role shape teachers' perceptions and experiences in PE (Korczyński and Marek, 2024; Pautu et al., 2025). Although numerous studies have explored gender and PE, no study has compared gender related aspect of PE in a Nordic country such as Finland with those regions in Middle Eastern such as Kurdistan region of Iraq (KRI). A comparative study across such distinct regions can shed light on the factors influencing PE classes activities and teaching, and student equally engagement, offering insights to improve participation and attitudes toward PE in diverse cultural and institutional settings.

Therefore, by examining these varied perspectives of PE teachers, the study will identify the unique challenges and opportunities each context presents for teaching PE, as well as how these differences influence teachers' perceptions, teaching methods, student engagement, and attitudes toward PE. This comparative approach will offer valuable insights into how cultural, social, and educational factors shape the PE experience for both teachers and students, ultimately contributing to the improvement of PE curriculum and programs worldwide. One of the core themes that emerged during the initial analyses of interview data of PE teachers from the KRI and

Finland showed up to be gender. Thus, this study aims to investigate PE teachers' perceptions and experiences regarding the intersection of gender and PE in Finland and KRI, examining teaching practices, curriculum, school culture, and societal influences. To achieve this aim, the following research question has been formulated: How do PE teachers in Finland and KRI perceive, experience, and reflect on the impact of gender on PE activities for boys and girls, and what factors shape these gendered perceptions and practices?

Collaboration between Tampere University (TAU) in Finland and the University of Duhok (UOD) in KRI, formalized in 2018 by signing memorandum of understanding between two universities to promote joint research and academic exchange. This study is conducted collaboratively by the Faculty of Education and Culture in Tampere University (TAU), the College of Physical Education and Sport Sciences in the University of Duhok (UOD), and the Faculty of Teacher Education and Arts in Nord University (NU), aiming at developing mutual knowledge of PE in both Global North and Middle Eastern regions. The ongoing collaboration, including regular meetings and workshops, has underscored PE in KRI's schools as one of the key emerged areas for research. As a result, joint online workshops with professors, lecturers and researchers were held to understand and study the PE curriculum and teacher training programs at both UOD and TAU. In the next phase of exploration, a semi structured video-stimulated interview study was conducted to understand fifth-grade PE teachers' perceptions and experiences in both regions. The initial analysis of these reflections provided valuable insights into PE classes, teaching methods, and curriculum. One of the main themes that emerged from the analysis was the influence of gender perspectives.

This study was conducted in Finland and the KRI, chosen for both theoretical and practical reasons. This study is based on theories that explore how socio-cultural diversity influences education and development, particularly within multicultural learning environment (Lagestad et al., 2024). Practically Finland and the KRI provide valuable contexts for comparative educational studies due to their cultural and geographical differences. One is a European country in the North, and one is a Middle Eastern Region. Meanwhile both regions have experience with immigrants and refugees: Finland, notably from Iraq and Syria (Statistics Finland, 2018), and KRI, hosting Syrian refugees since 2011 (IOM, 2024). This shared experience enhances cultural diversity in their educational systems. While much of the research has focused on the broader impact of immigration at the school level, there has been limited exploration of its specific effects on subjects like PE, where cultural factors significantly influence students' engagement, motivation and wellbeing.

Previous research related to PE and gender

Despite advancements in gender equality, PE classes often continue to reflect traditional gender roles (Avraam and Anagnostou, 2022). A systematic literature review conducted by Avraam and Anagnostou (2022) examined gender stereotypes in PE in Cyprus and globally. The study concluded that while the significance of females' roles in sports is increasingly acknowledged, substantial progress is still needed to advance equality across various dimensions, in PE. Previous research indicates a significant gender disparity related

to PA (Aggeli and Lesta, 2018; Dandade and Pawar, 2024; Metcalfe, 2018; Lagestad et al., 2019; Salvatori and Cherubini, 2024), with girls typically being less active than boys, and often experiencing limited engagement and support in PE classes, which can result in decreased participation and negative attitudes toward PA (Gorely et al., 2003; Lagestad and Mikalsen, 2023; Telford et al., 2016; Mateo-Orcajada et al., 2021). Additionally, PE curricula frequently fail to meet girls' specific needs effectively (Solmon, 2014). Therefore, understanding how gender shapes teachers' perceptions and experiences in PE, necessitates a comprehensive understanding of attitudes and socio-cultural and socio-ecological contexts. Even though gender equality in PE has been a significant area of research, it has been recognized as a longstanding and ongoing challenge (Watson et al., 2021).

The findings of a systematic review study conducted by Guerrero and Guerrero Puerta (2023) revealed that while there are efforts to address gender biases and foster inclusive environments, many PE programs still adhere to traditional gender norms and preferences. Gender disparity can be partially attributed to the influence of PE teachers' personal beliefs, and teaching philosophies, which are shaped by their teaching efficacy (Gråstén et al., 2022; Zee and Koomen, 2016). However, the connection between teachers' perceptions and gender-focused PE has not been thoroughly studied particularly in a comparative way related to differences in curricula, implementation, as well as cultural and geographical differences.

Research shows that girls' participation in PA is less positively influenced by socio-ecological factors than boys (Telford et al., 2016). These factors encompass individual traits (like age and health), family dynamics (support and expectations), school settings (which can be either supportive or limiting), and broader environmental influences (social and cultural norms and rules). While strategies to engage girls in PE exist, those that address the social and cultural constructions of gender role as the root of disengagement and inequality, are rarely discussed (Cameron and Humbert, 2020). This is particularly evident in comparative approaches, especially given the significant cultural gap which can uncover new perspectives on how social structures, cultural norms, beliefs and values influence participation attitudes and engagement in PE activities equally.

Research on gender inclusivity in PE shows that many Western countries, including Finland, are advancing strategies to foster equitable participation for all students (UNESCO, 2014). However, discussion and recognition of gender bias and equality within Western education systems have also gained significant attention, reflecting the deeper social values and beliefs that underpin these educational institutions (Gråstén et al., 2022; Valley and Graber, 2017). Research shows that although PE classes are generally viewed positively in Finland, participation rates reveal gender disparities (Kääpä et al., 2022). Adolescent boys are typically more active than girls, underscoring the need for targeted strategies to boost girls' involvement. Previous research indicates the necessity of applying key approaches including creating coeducational methodologies, environments and changing teaching methods and lessons to remove deep-rooted gender stereotypes (Guerrero and Guerrero Puerta, 2023; Salvatori and Cherubini, 2024). Other interventions, such as peer engagement, use of role models and modeling of desired attitudes and behaviors, have also been used for transformative shifts on gender stereotypes in PE (Stewart et al., 2021). The necessity for PE teachers to undergo specific training focused on gender equality, advocating for a student-centered approach that moves beyond traditional

sport-based activities, has been emphasized by previous research (Johansen et al., 2023; Lagestad and Mikalsen, 2023). This approach aims to create a more balanced and inclusive PE environment, ensuring that all students can engage meaningfully regardless of gender.

Psychological factors, historical gender norms, and the social and cultural context can affect gender perspectives in PE (Gill, 2017). Higher perceived competence was linked to greater enjoyment, with girls reporting low competence showing the greatest decline (Cairney et al., 2012). Girls' perceptions of PE classes and the negative experiences they encounter may significantly contribute to their lower levels of PA (Fairclough, 2003). Research shows gender-based emotional differences in PE (Chaplin and Aldao, 2012). The finding of Petiot and Desbiens (2022) shows concerns about girls' emotional experiences in PE, which may affect their learning and long-term sports participation. Boys tend to express stronger positive emotions during competition, while girls exhibit more positive emotions in cooperative activities (Alcaraz-Muñoz et al., 2023).

PE has traditionally been associated with masculinity (Avraam and Anagnostou, 2022; Gorely et al., 2003; Vaquero-Cristóbal et al., 2024), and previous research discovered that even though educators are aware of the need to challenge traditional ideas of masculinity, there is still a chronic struggle to completely overcome these societal biases (Gorely et al., 2003; Sunderji et al., 2024). The socio-cultural context plays a crucial role in shaping gender relations within PE. In some cultures, traditional gender norms dictate the types of activities deemed appropriate for boys and girls (Nahari and Makopoulou, 2024).

Teachers' views and practices are shaped by gender norms (Bourdieu and Wacquant, 1992). Male teachers often feel pressured to adhere to traditional masculine standards, while female teachers may find it challenging to assert authority in male-dominated settings (Berg and Lahelma, 2010). Moreover, female educators particularly noted that parental expectations significantly impact girls' involvement in sports, thereby reinforcing conventional gender roles (Preece and Bullingham, 2020). Female PE teachers, less-experienced teachers, and those with high teaching efficacy are more likely to support gender equality than their male, more experienced, or lower efficacy counterparts (Gråstén et al., 2022).

In Finland, gender equality is strongly emphasized in educational practices, yet challenges may still exist in how boys and girls engage with (Ministry of Education and Culture, 2021). This disparity grows with age, as girls' participation in physical activities tends to decline due to societal pressures, body image concerns, and limited tailored activities that align with their interests (LIKES Research Centre, 2022). In Finland in primary school mixed groups are typical in lower grades and both mixed and separated groups are used in upper grades. While Finland has made strides through initiatives like the "Move program" and gender-sensitive teacher training, challenges such as unconscious bias and the lack of inclusive curricula remain (Gråstén et al., 2022; Lehtonen et al., 2022). The gender of PE teachers also can construct the gender and could maintain traditional roles in PE (Berg and Lahelma, 2010). Addressing these issues requires continued efforts to adapt teaching practices, provide professional development for educators, and create inclusive environments that encourage participation across all gender. Moreover, the increasing demographic diversity in Finnish schools (Demography-Programme, 2023; Statistics Finland, 2020), driven by internationalization, immigration, and societal changes, has introduced both challenges and

opportunities for fostering inclusivity in school (Siljamäki and Anttila, 2021). Immigrant students make up a growing portion of the school population (Statistics Finland, 2020), particularly in urban areas, requiring educators to address diverse cultural sensitivities and needs. These demographic shifts intersect with gendered expectations in PE, further emphasizing the importance of inclusive teaching methods that accommodate both cultural and gender diversity.

The Kurdistan Region of Iraq has made strides in advancing women's rights and public participation, yet challenges remain in achieving meaningful gender equality, particularly in rural areas. Gender roles in KRI are significantly shaped by socio-cultural factors, with these differing expectations influencing education, employment, and other aspects of life. Traditionally, men have held protective and leadership roles in both society and the family, which has contributed to the formation of stereotypes, including participation in activities such as PE and sport (Sinjari and Barwari, 2022). These stereotypes often result in limited opportunities for women in sports and physical activity, impacting their participation and engagement in PE (Shabu et al., 2023).

Theoretical framework

Drawing on Bourdieu (1977, 1978, 1986, 1990) theoretical concept of habitus, individuals internalize social norms and gender expectations, which in turn shape their participation in and performance of physical activities (Gorely et al., 2003). Bourdieu's concept of habitus refers to the deeply ingrained habits, skills, and dispositions that individuals acquire through their life experiences. It is shaped by social structures and influences how people perceive and react to the world around them. Habitus refers to the ingrained dispositions, habits, and ways of thinking that individuals acquire through their upbringing and societal interactions. This concept can help explore the behaviors and attitudes of teachers and students within different cultural and social contexts. In the context of PE, habitus help explain how cultural norms, societal expectations, and individual life experiences shape gender-specific attitudes and behaviors. For instance, cultural norms might determine which sports are deemed "appropriate" for boys or girls, reinforcing traditional gender roles within the PE setting. Through Bourdieu's theoretical framework, this study explores how the dominant habitus within each cultural context influences teachers' perceptions, experiences and positioning regarding PE classes, physical activity (PA), and gender roles.

Methods

Design

To explore PE teachers' perceptions and experiences regarding the interplay between gender and PE in Finland and KRI, the study uses a qualitative design with semi-structured in-depth interviews and a phenomenological-hermeneutic approach to investigate the research question (Tjora, 2017). The study started with continuous joint online meetings, discussions and exchanges on PE from Finland and KRI, that also resulting in recording four videos (each for the

duration of 15 min) from both indoor and outdoor fifth grade PE classes in Finland and KRI. Videos are considered one of the most effective methods for participants to observe and analyze teachers' instructional planning and teaching execution (Lyyra et al., 2015; Tripp and Rich, 2012). All activities within this research project adhered to the ethical guidelines for research involving human subjects and human sciences established by the Finnish National Board on Research Integrity (2019) and the ethical standards for research in KRI, which meet the ethical requirements for empirical research.

Participants

The participants were recruited using strategic selection (Thagaard, 2013) based on the inclusion criteria, which were being PE teachers for fifth-grade students in Finland or KRI and having a candidate's or master's degree in PE or a master's degree in education (class-teacher). However, we did not find participants with a master's degree in KRI, so we had to select PE teachers with bachelor's degrees in KRI, while the PE teachers in Finland had a master's degree. However, we will argue the different education level reflects the actual education level of traditional PE teachers in both countries. Teachers were randomly selected from various public schools in the city to ensure diverse representation, considering both novice and experienced teachers. In total, eight Finnish PE teachers (four male and four female) and six KRI PE teachers (three male and three female), agreed to participate in the study, after being contacted by the researchers. The difference in the number of participants was due to the timing and availability of PE teachers. Many were occupied with examination duties, administrative roles, or pursuing a master's degree. These factors made recruitment challenging, and as a result, only six volunteers were available to participate in the study. All randomly selected Finnish teachers agreed to participate to the study. Eight participants were seen to be enough according to having a representative sample of teachers with different backgrounds and also adequate to compare with the six KRI teachers. Recognizing the relevance of gender equality in data collection, a concerted effort was made to ensure balanced participation from both genders. This decision stemmed from discussions held with colleagues from both Finland and KRI, in which the shortage of female PE teachers in educational institutions and schools was addressed. The Finnish PE teachers' ages varied from 28 to 49 years (mean = 38.5 years; SD = 8.25), and their experience being a PE teacher ranged from 1.5 years to 30 years. The PE teachers' ages in KRI varied from 24 to 59 years (mean = 37.8 years; SD = 12.8), and their experience being a PE teacher ranged from 5 years to 25 years. All participants were informed about the aim of the study, as well as their rights and the guarantee of anonymity. Detailed information of age, gender, degree and working experience of the participants is presented in detail in Table 1. The participants were given names (pseudonyms) to maintain confidentiality.

Procedures

A semi-structured interview guide with open-ended questions was developed by the project team following continuous meetings,

TABLE 1 Participants' country/region, name (pseudonym), gender, age, degrees, and working experience.

Country/Region	Name	Gender	Age (years)	Degree	Working experience (years)
Finland	Heikki	Male	32	M. Ed.	7
Finland	Mauri	Male	30	M. Ed.	6
Finland	Anneli	Female	49	M. Sc.	20
Finland	Heidi	Female	48	M. Ed.	20
Finland	Matti	Male	41	M. Ed.	10
Finland	Tuula	Female	49	M. Ed.	30
Finland	Leena	Female	36	M. Ed.	20
Finland	Pasi	Male	28	M. Ed.	1.5
KRI	Darya	Female	24	B. Sc.	6
KRI	Jiyan	Female	30	B. Sc.	7
KRI	Zilan	Female	25	B. Sc.	5
KRI	Azad	Male	41	B. Sc.	19
KRI	Sherko	Male	59	B. Sc.	36
KRI	Karwan	Male	48	B. Sc.	25

discussions on PE, and the analysis of four recorded videos from both indoor and outdoor fifth grade PE classes. The interview guide included two parts, questions at the start and questions after the participants had seen the video from the PE teaching outside of their region. The initial questions aimed to understand the teachers' goals, challenges, and perceptions of social structures and gender issues within their PE classes. In the second section, after reviewing videos, the questions focused on the teachers' reflections and learning from the videos. The teachers were asked to discuss specific parts of the videos that stood out, compare the videos to their teaching styles, and consider the connection between teaching, culture and student motivation. The initial questions included the following: What goals do you have in your PE teaching? What do you find challenging in physical education? How are the social structures in your class and how are gender issues addressed in PE? In your opinion, what kind of position does physical education have at your school? In your opinion, what is the role of physical education in your society? What kind of suggestions do you have for the developing curriculum? How is the role of gender in PE at schools? How has PE been reflected or interpreted in the PE curriculum? How is the relation between PE and social and cultural context?

For the second section after looking at the videos, the interview guide included questions, such as: What were your initial thoughts when you saw these videos? What do you feel you have learned from these videos? Are there any specific parts of the videos that caught your attention and you would like to discuss? Did you notice any similarities or differences between the videos and your teaching style, and could you please explain? In your opinion, what kind of connection do the assessment methods you use have with students' motivation and engagement in physical education? How do you think cultural context or the environment in which we live has influenced or is it influencing physical education?

The interview protocol was developed and tested both in KRI and in a country with a PE tradition/culture that is close to the Finnish PE (Norway). In both regions we were concerned with interviewing typical PE teachers in the region regarding age, educational level, and

experience level, and the interview took part in that region with a Kurdish and a Norwegian researcher, which also were experts in PE. In Norway the pilot interviewee was a 29-year-old male PE teacher who was teaching PE in fifth grade, and in KRI pilot interviewee was a 39-year-old male PE teacher who was teaching PE in fifth grade. Both had several years of teaching experience in primary school. The pilot interviews followed the interview guide, with initial and open-ended questions first and questions focused on the teachers' reflections and learning from the videos after watching the videos. The Norwegian teacher was shown videos from PE classes in KRI, and KRI teacher was shown the videos from Finnish PE classes. The two pilot interviews took approximately 90 min, including the 30-min segment dedicated to viewing the videos, and both researchers found the interview guide suitable. After the pilot interviews were conducted, both teachers that were interviewed were asked about the interview guide, and they did not experience any questions problematic, and found the interview process interesting and reflexive.

The interviews with the Finnish PE teachers were carried out face-to-face in the Pirkanmaa region, except for one which was conducted online using Microsoft Teams. The interviews with the PE teachers in KRI took place face-to-face at schools. Most interviews were conducted in the participants' mother languages (Finnish or Kurdish), although three interviews with Finnish participants were conducted in English. However, these participants were also given the opportunity to communicate in Finnish towards the end of their interviews. All interviews were audio-recorded translated and transcribed into the conducted language of interviewees (Kurdish, Finnish and English) and then translated to English, facilitating their readiness for joint analysis. Each interview lasted between 90 and 100 min, including a 30-min segment in the middle that was dedicated to viewing videos. After conducting 14 interviews (eight interviews from Finland and six from KRI), it was also evident that no new themes emerged, signaling that data saturation had been achieved (Lowe et al., 2018; Fusch and Ness, 2015). This aligns with Weller et al. (2018), who note that the quality of probing and prompting during

TABLE 2 Initial and thematic coding.

Reg.	Initial coding	Axial code	Theme/category
Teachers from KRI	<ul style="list-style-type: none"> - Families want their sons to participate in sport activities in schools - 200 males, but no females in PE academics - No female athletes - No attention to sports, especially for girls - For families girls should not be athletes and study in the sport education - Societal and cultural barriers - Parental influence on participation, - Challenges for girls in participation in PE championships 	<ul style="list-style-type: none"> - Family role (awareness, expectation, belief and attitudes) - Cultural and social barriers - Gender expectations and PE 	Gender roles, socio-cultural norms and attitudes
	<ul style="list-style-type: none"> - Safety in PE classes - individual preferences - Mixed or separate PE activities based on students' preferences, interest and skill levels - Teams and cooperative PA - Encouraging skill development for both boys and girls - Not to make any difference between boys and girls - Teachers treat boys and girls equally - Avoiding any sports movements that may cause embarrassment for girls - Encouraging and motivating all students to participate 	<ul style="list-style-type: none"> - Promoting gender equity - Adapting PA to individual needs and comfort - Teachers' role 	Flexible pedagogy in PE class
	<ul style="list-style-type: none"> - Boys being more competitive than girls - Emotional and behavioral responses by boys and girls in PE - Shyness and self-consciousness for girls during PE - Gender in primary school is not a big issue - Girls get more tired and annoyed than the boys - Girls are more sensitive and sentimental than boys - Avoiding embracement for girls - Boys are more aggressive in some PA - Teenage sensitivity in PA 	<ul style="list-style-type: none"> - Teachers' awareness of gender sensitivity - Gendered differences in behavior, emotions, and participation in PE - Age-related gender differences in PA - Gender and different PA 	Awareness of gender differences and impacts
	<ul style="list-style-type: none"> - Gender-based restrictions in gymnastics curriculum - Limited opportunities for girls in certain sports (e.g., no football or futsal in primary school) - In gymnastics boys have six movements, while girls have four movements - PE as a secondary subject in schools 	<ul style="list-style-type: none"> - Gender inequality in PE curriculum - Marginalization of PE in schools 	Gender and curriculum

(Continued)

TABLE 2 (Continued)

Reg.	Initial coding	Axial code	Theme/category
Teachers from Finland	<ul style="list-style-type: none"> - I can make a pedagogical decision - Setting separate or mixed PA (it's not set in a stone) - Mixed or separate PE activities based on -students' preferences, interest, skill levels and the type of activity - Providing individualized support and attention - Encouraging and motivating all students to participate and engage - Creating activities for all students - Preventing stigmatization - Creating activities suitable for all - Setting rules to encourage everyone - It's my own class, so we can do anything together 	<ul style="list-style-type: none"> - Freedom and autonomy in choosing PE - Flexible PA for boys and girls - Teachers' support and encouragement - Inclusivity and equality in PE classes and PA 	Pedagogical flexibility and freedom
	<ul style="list-style-type: none"> - Gender in primary school this is not a big issue - Teachers' role in promoting gender equality - Teenage age sensitivity in PA - Shyness and self-consciousness for girls during PE - Emotional and behavioral responses by boys and girls in PE - Gender differences in ball games - Boys' play can be a bit too rough for the girls - Differences in motivation - Boys are more competitive - Girls are a little bit shy - Experiencing bodily sensations and physical changes during PE activities - The role of social media in shaping gender identity and its connection to PE, - Gender identity and physical education 	<ul style="list-style-type: none"> - Teachers' awareness of gender sensitivity - Gendered differences in behavior, emotions, and motivation in PE - Gendered differences in skill level - Age-related gender differences in PA - Gender and different PA - Gender identity and impact on PA - External Influences on Gender Identity 	Awareness of gender differences and impacts

interviews plays a more significant role than the number of interviews conducted.

Analyses

The transcribed interviews were analyzed with QSR NVivo 11 (London). The QSR NVivo 11 is a reliable software for qualitative data analysis, which enhanced the accuracy of the analysis. The data have been analyzed following inductive thematic analysis (Johannessen et al., 2016). Thematic analysis provides a systematic approach to data interpretation, allowing researchers to explore how various themes emerge from qualitative data. Furthermore, the analysis focused on meanings, as described by Johannessen et al. (2016).

The data from Finnish and Kurdish PE teachers were initially reviewed and coded into themes. Through the coding of the teachers' statements, several themes emerged. One prominent theme was the impact of gender on PE. The emerged theme of gender impact has been identified to show how PE teachers perceive and experience the gender relations with PE classes, their teaching and students' activities both in Finland and in KRI. This theme gained attention as similarities and differences in experiences and reflections on gender in PE classes were identified between Finnish teachers and those from KRI. All texts that were related to gender were read through and coded openly and into themes.

Analyzing the statements related to gender and PE starts with initial coding (descriptive and open coding) to identify the initial patterns and key ideas from the transcripts. Several open codes emerged (Table 2). In the second step these initial codes were grouped into broader codes (axial codes) helping to organize the data and connect them to larger concepts. In the final stage the themes/categories have been constructed through an iterative process of reading and rereading the interviewees' statements, as well as reviewing and comparing the open codes that emerged in the initial phase. This process aimed to represent and reflect the deeper meaning or insights gained from the data. This process led to the identification of four key themes/categories from the KRI teachers' statements and two main categories from the Finnish teachers' statements, which captured the primary themes related to gender and PE.

Results

Teachers from KRI

According to the interview data of teachers from KRI, the analysis led to the following categories: (1) Gender roles, socio-cultural norms and attitudes, (2) flexible pedagogy in PE class, (3) awareness of gender differences and impacts, and (4) gender and curriculum.

Gender roles, socio-cultural norms and attitudes

The KRI teachers were asked about how PE has been seen generally by society and how this impact gender in relation to PE. Their responses relieve the importance of social and cultural norms on gender role, expectations and perception in society. This impacts subsequently on shaping perceptions on how PE can be beneficial or get in used by boys and girls differently in PE classes, and at schools. Gender role and the cultural and traditional norms

imbedded in families or community sometimes make challenges in participating females in PE equally and in conducting mixed physical activities for boys and girls in PE classes. As one of the teachers Jijan said:

If the teacher asks the students, especially female ones to bring special clothes of sports, the society will tell them not to do so. This is a challenge for us to make boys and girls play sports together.

The KRI teachers' statements show that the social view on PE for females and males is different. It shows that families and society is more supportive for male's sport and their participation in championship. This cause more efforts for teachers to convince with parents and be supportive for talented females differently through negotiation with families. As Jijan pointed out:

The society, in general, is not an obstacle for male students; rather, they want their sons to participate in sport activities in schools and as you see there are many physical education academies full of students; maybe you will find 200 males, but no females. That means there are no female athletes as the society is not supportive... [...]. I had a female tennis player; I and the manager of school did our best with her mother so that she can participate in championship.

This was also confirmed by Zilan, stating:

In my case, the parents were saying how do girls' study in the institute of PE? But step-by- step, it is getting better. It is difficult for girls to participate in championships in other cities as their families cannot accept this idea because of social barriers even if the girl is as potential as the boy.

Moreover, most of the teachers mentioned that families prefer that their girls invest their time and energy on studying other subjects, rather than PE.

Although these social and cultural attitudes and norm have been seen by teachers as challenges in PE regarding gender equality, however, they are confirming the changes in times and generation and the contribution of technological advancements to it. For example, Darya pointed out:

There was no attention to sports, especially for girls, but now year by year it is getting better. For example, boys were going to play in the neighborhood, but girls were rarely allowed to do the same... this also goes back to parents as they claim that their girls should not be athletes and should not study in the sport education, or go outside wearing sports clothes...however, step by step, things are improving, likely due to the strong impact of technology on the new generation.

Although teachers do not consider gender related issues as a great concern in primary education, as they are only kids, primary schools often emphasize gender equality in PE, which can foster an environment where gender distinctions are less significant. The teachers tried to create opportunities for both boys and girls to participate equally in activities. However, all KRI teachers in our study

acknowledged that gender-related issues exist in society, including in PE settings. They all illustrated their culture-aware teaching, where teachers are conscious of the physical and social comfort of all students. The findings revealed that the KRI teachers appear to have successfully navigated cultural sensitivity in their PE classes, by using cultural friendly communication to gain parental acceptance in supporting their girl's contribution in PE activities. As Jiyan, respectively, pointed out:

We have challenges with females as their parents are somehow conservative, but these years they are better than in the previous ones say 15 years ago.

Also, Sherko pointed to such challenges:

From a social perspective, we all have challenges concerning gender; however, in primary school this is not a big issue. They could accept the idea of girls wearing sports clothes, so we ... telling them [family] that they are kids, and they are like sisters and brothers. And as they saw their kids having a passion for sports, they took the initiative asking about the type of clothes they could bring for sports.

The above statements show the awareness of teachers on the impact of community and family culture, tradition, norms and beliefs on gender role and gender expectations in surrounded society.

Flexible pedagogy in PE class

This theme focuses on adaptability, inclusivity and gender awareness of teachers in conducting the PE classes and activities. It also identifying the impact of emotional and physical differences for both boys and girls in PE classes from teachers' perspectives. The KRI teachers' statements illustrate their efforts toward equality in integrating both boys and girls into various PE activities at classrooms. Even though teachers acknowledge the importance of operation equality in engaging boys and girls in all PE activities including group activities, they also realize and consider the individuals preferences, physical abilities, personal feelings and freedom in selecting activities that they want to join for some sports. As for example teacher Azad pointed out:

I try not to make any difference between them. Usually, boys and girls play separately, but I usually integrate them, telling them that we are all equal... When I teach them basketball; for example, I tell them to form their teams of boys and girls together not separately and of course both genders are cooperative. However, in their free lesson, they are free to play separately as boys play football aggressively so girls don't play with them as they will get hurt. There are some sports that girls are fonder of than boys, like volleyball.

The KRI teachers' perceptions and experiences highlight both the benefits of mixed-gender PE activities (for those who want and enjoy it) and the potential social or personal barriers that can arise for some, such as shyness, intensity of play, or perceptions of delicacy. Teachers use different strategies to encourage and motivate students to participate in PE activities despite their gender. Since the interview Zilan said:

I tell them there is no difference between boys and girls and maybe the girls have some potential that boys lack... I encourage them to do sports and not feel shy.

The KRI teacher's gender -aware teaching and related cultural sensitivity help them to avoid embarrassing and feeling uncomfortable for students. Their awareness made them apply some strategies in conducting various PE activities for both boys and girls. As Sherko mentioned that:

I usually split the students into four groups: two groups for girls and two groups for boys and I let girls play together and boys play together.

This also is confirmed by Karwan:

I generally treat boys and girls equally; however, there are some exercises that girls can't practice among boys; thus, I avoid these exercises. Every year, I make a volleyball team for boys and a volleyball team for girls.

Awareness of gender individual differences and impacts

This theme focuses on how the boys' and girls' interaction is in PE activities, such as playing together in groups, considering individual physical, behavioral and emotional characteristics, and social dynamics have been perceived and experienced by PE teachers. Teachers are aware of both the emotional and physical differences that influence how boys and girls tend to participate in certain activities or are grouped separately in PE classes. As Darya highlighted:

Girls are not like boys, girls get more tired than the boys; they also get more annoyed, and they tend to think more due to having more problems, unlike boys... Many times, I went to the classroom and noticed that boys and girls played a game, the girls took it very seriously and this is due to their sensitivity and sentiment more than boys.

Sherko also pointed out that:

I tried, as much as possible, to avoid any sports movements that may cause embarrassment for girls to practice in front of boys...I don't let obese girls play with boys because they will be embarrassed if they don't win.

Sherko argued further:

Similarly, as the female students become teenagers in the fifth and the sixth grade, they do not want to practice each type of sports ... We talk to them, and we give them some roles and they prefer to run with her female peers to male ones.

Also, Jiyan stated:

We usually mix boys and girls together in the sports of basketball, volleyball and sometimes football as there are girls who want to be mixed with boys, ...However, there are some girls who don't mix with boys, or the boys would say they don't want to play with

girls because of them being very delicate and they practice sports very hard or there are girls who are very shy and cannot compete with boys.

Gender in PE curriculum

It is noticeable that teachers in the KRI did not directly address gender in the curriculum. However, their statements were limited to a restricted number of generalized sports and movements, implying that girls are unable to participate in certain activities. For example, Darya said:

In gymnastics class for example, boys have six movements, while girls have four movements; girls cannot play gymnastics, using the horse or the ring.” Also, the statement of Karwan partly supports this statement: “The sports that you do not find in primary school for girls are football and futsal. The PE class shows equality between genders at schools.

Teachers from Finland

According to the interview data of teachers from Finland, the analysis led to the following two categories: (1) Pedagogical flexibility and freedom, (2) awareness of gender differences and impacts. These findings will be presented.

Pedagogical flexibility and freedom

The analyses of the interview data indicated that according to Finnish teachers, gender has less impact on PE in primary school. The Finnish teachers did not seem to view gender as a concern. Instead, they seemed to recognize it as a natural factor that encompasses both physical skills and motivational differences. They viewed all PE activities as being for both girls and boys and seemed to feel quite flexible in organizing these activities in mixed groups or separately by gender at times. This depended on the nature of these activities and the students’ own preferences, as joy, freedom and flexibility were core elements in their PE teaching. Tuula argued:

In elementary school, I think it has less impact. We mostly have mixed-gender groups. It might depend on the scheduling and practical matters, but generally, that’s how it is...it’s not set in stone. For example, I currently have a sixth-grade physical education class, and it’s my own class, so we can do anything together, boys and girls. But sometimes, within a lesson, I can make a pedagogical decision where boys play their own game, and girls play their own game.

The analysis revealed that the flexibility in organizing activities in Finnish PE classes is structured around students’ skill levels, allowing for both mixed-gender groups and separate groups when appropriated. Leena stated:

Sometimes we play separately, with boys having their own game and girls having their own game. Sometimes we mix based on skill level, and sometimes we create activities like ball games or apps that are suitable for all skill levels, incorporating different types of rules to encourage everyone’s participation.

Awareness of gender individual differences and impacts

The analyses revealed that the Finnish teachers found advantages in both mixing and separating the PE activities, but the core for mixing or separation was not based on gender itself but based on skill level and the certain context of activities. This is reflected by Matti:

I have both mixed-gender groups and gender-segregated groups, and each has its advantages, and I enjoy both. Particularly up to the sixth grade in elementary school, it generally works well. However, for certain subject matter, it might be beneficial to divide the groups based not necessarily on gender but on specific skills. For example, in swimming lessons, it’s more natural to have gender-segregated groups.

The Finnish teachers seemed to view the integration of boys and girls in PE as a good practice, as it promotes a wider range of activities and interactions. As Heidi points out:

Having girls and boys together is good because then they also have more options from either side...it’s very common nowadays that girls and boys have PE classes together, so there isn’t a significant difference in performance that would require separating them into different groups ... It provides both with equal opportunities to be themselves there... for example, there are so many who are willing to play the same sports and with the same intensity, so it doesn’t have that much of an effect.

Also, Mauri argued that “*we never do things like this is for boys and this is for girls ...everything we should do together, and I think it is a very good thing because differences are so high, and we can do anything with both.*” However, the Finnish teachers also recognized that gender separation could have a positive impact under certain conditions, as it could provide comfort and motivation for both boys and girls. In this context, teachers acknowledge that gender separation could influence the students’ participation, but in a positive way. As Heidi stated:

In fifth and sixth grade physical education, teachers prefer pairing boys and girls together for activities requiring direct contact, as it helps reduce discomfort. While strength differences can be a challenge, these variations are often less significant than differences within each gender. [...] if there are very different preferences and intensity levels in the game, then gender does have an impact... And there’s a possibility to group them for certain exercises and games so that those who want to play a bit harder can be together, and those who are tinier in either case have that option without being stigmatized.

According to the interview data of the Finnish teachers, the impact of gender related to the performance varied, depending on the type of activity or game, as well as physical attributes and differences in behaviors and interest. For example, the Finnish teachers stated that boys often excel in ball games due to their fitness levels, while girls tend to perform better in gymnastics. As Heikki pointed out:

I have to say that gender does have an impact. Especially when it comes to ball games, for example, girls and boys can do certain

things together, but sometimes boys' play can be a bit too rough for the girls. And for girls who haven't played many ball games but participate in other activities like gymnastics. [...]. Boys and girls are interested in different aspects of sports, so the motivation for different activities is also different. I've experienced that boys tend to be slightly more competitive than girls, and that comes up in the classroom.

Mauri supports this statement by saying:

There are girls that are shy and never touch the ball and are afraid of the ball, and we should give them a chance to play in their level.

The analyses of the interview data indicate that the Finnish teachers point to the need for separating PE activities for boys and girls as they grow older, based on their maturity levels and physical changes. They also emphasize the importance of recognizing the physical, emotional, and behavioral changes children experience as they approach adolescence. Since students' behavior often reflects these transitions, teachers must be mindful of this sensitivity and adapt their approach accordingly, as Heikki argued:

All sports are for both boys and girls but separately, however, it is for older ages because most of the girls are shy, and it is easier for them to do activities in PE when they are with only girls.

This is also pointed out by Anneli:

Before teenage age gender had no impact on PE and everybody can do the same activities, and it does not matter what the gender is. However, at some sports if they are 11 years old, so especially girls are a little bit shy around boys. In some sports like floorball, boys are rough, and girls do not play with boys. So, after warming up activities then they can separately do the activities.

Interestingly, the analyses of the Finnish PE teachers' statements indicate that the impact of gender impact is understood through gender identity, which influences participation in PE activities. This, in turn, affects individuals' understanding of their bodies and skills, and subsequently how girls and boys are perceived and categorized in various sports activities. Matti also attributed this to the influence of social media, which impacts both girls and boys in understanding and categorizing themselves into specific PE or sport activities. He pointed out that:

However, as children grow older, they become more aware of their own gender identity, and it also reflects in physical education classes. With the vast increase in social media and the use of personal devices by students, where cameras are everywhere, it may affect how they perceive their own gender identity or gender itself in certain situations during physical education. They might find it challenging or conflicting because the current culture doesn't necessarily emphasize comfort with one's body... There seems to be a contradiction in how students experience their own bodily sensations, particularly with the physical changes during adolescence, and I believe it also becomes apparent in physical education.

Discussion

In comparing Finnish and KRI teachers interview data related to gender, it appears that gender does not significantly impact PE participation, particularly in primary education. However, both teachers from Finland and KRI highlighted differences in the interests, tendencies, and physical abilities of boys and girls when participating in specific activities and sports in PE. Both teachers from Finland and KRI are aware of how age and maturity can affect girls' participation in certain sports that require more physicality or may cause sensitivities. Teachers from both Finland and the KRI highlighted the significant influence of societal norms and stereotypes on shaping boys' and girls' preferences for specific physical activities or sports. These societal expectations often guide children toward certain activities deemed appropriate for their gender. For example, boys are typically encouraged to participate in more competitive, while girls are often steered toward less aggressive PE activities and sports. This finding aligns with earlier research that explores the historical context of gender roles in sports and PE (Avraam and Anagnostou, 2022; Dandade and Pawar, 2024).

These differences in perspective can be explained by Bourdieu (1977, 1978, 1986, 1990) theoretical concept of habitus, where individuals internalize social norms and gender expectations, which in turn shape their expectations of what is natural for girls and boys to participate in Bourdieu (1977, 1978, 1986, 1990) concept of habitus refers to the deeply ingrained habits, skills, and dispositions that individuals acquire through their life experiences. It is shaped by social structures and influences how people perceive and react to the world around them. In PE, gendered habitus influences how students and teachers perceive physical activity, sports participation, and bodily movement. Cultural norms determine which sports are deemed "appropriate" for boys or girls, reinforcing traditional gender roles within the PE setting. For example, boys might be socialized into more competitive, aggressive sports, while girls may be steered toward more "graceful" or non-contact activities, such as gymnastics or dance. In PE, the physical capital of boys, typically linked to strength and endurance, may be seen as more valuable, while girls' physical capital might be less valued or framed differently. For example, a girl's athleticism in a traditionally "feminine" sport may be less celebrated than a boy's success in a "masculine" sport. In KRI, deeply ingrained cultural norms shape a habitus that dictates gender roles in PE with specific expectations for boys and girls regarding behaviors, activities, and participation. These norms also influence familial expectations, reinforcing gender differences rather than equality. This cultural habitus is reflected not only in students' attitudes but also in teachers' practices, who have internalized these norms through their own socialization.

In Finland, where gender equality, wellbeing, and a healthy society are strong societal values, habitus supports more inclusive participation in PE, even though gendered preferences in sports may still persist. The Finnish national curriculum (Finnish National Agency for Education, 2014) outlines the goals of PE as a compulsory subject in basic education, aiming to enhance pupils' physical, social, and psychological wellbeing, as well as foster a positive body image. In KRI, traditional gender roles and a stronger emphasis on sports performance rather than movement for wellbeing may shape habitus differently, potentially leading to unequal participation in PE due to cultural expectations and norms. The concept of habitus is dynamic,

adapting to new social contexts and experiences (Bourdieu and Wacquant, 1992). In PE, exposure to more equitable gender roles can reshape students' and educators' perceptions of gender. By fostering inclusivity and challenging stereotypes, teachers, curricula, and policies can actively transform habitus, promoting a more meaningful and equitable understanding of gender in sports.

Findings of this study depict that the interests and tendencies of boys and girls toward PE classes and specific activities or sports are also shaped by family beliefs, Familial, social, and cultural roles and expectations, teachers' perceptions and approaches as well as social media. This will lead to how individuals see themselves in relation to the PA or sport they are engaged in and how they understand their bodies. These results have been in line with previous research that indicated the role of stereotypes and external factors significantly contributes to the construction of gender identity in the context of PE (Lagestad et al., 2021; Metcalfe, 2018). Traditionally, girls were encouraged to engage in activities considered "feminine," such as gymnastics, while boys were directed towards more competitive team sports like rugby and cricket (Avraam and Anagnostou, 2022).

Notably, the social and cultural context emerges as a fundamental reason for how gender impacts PE in PE teachers from KRI. In contrast, Finnish teachers primarily attribute gender issues to individual factors such as the physical ability of children, their emotionally readiness and their interests but also some familial and lifestyle influences as well as PE teachers as role models. Overall, the gender awareness and sensitivity expressed by PE teachers from KRI are broader and deeply rooted in the cultural and social context. In interviews with teachers in the KRI, it was evident that societal perceptions affect girls' participation in PE activities and sport championships. Teachers noted the challenges they face in convincing parents to allow their daughters to participate in sports activities or championships. In some cases, teachers mentioned that families often regard PE as less important than other subjects like math, further reinforcing the lower status of PE in comparison to academic subjects. This finding aligns with the Hardman et al. (2014), which emphasizes that, both globally and regionally, PE is often regarded as having a lower status than other subjects. Perceiving PE as a lower-status subject contradicts previous research that highlights the critical role of sports and physical activity in enhancing educational achievement, as well as providing numerous additional benefits (Bailey, 2016). This underscores the role of family perspectives and beliefs in shaping attitudes toward PE, with girls and boys being influenced differently based on societal expectations. This aligns with previous studies on the impact of family and societal perceptions on children's involvement in PE (Bailey, 2015; Preece and Bullingham, 2020).

The findings from Finland and KRI also indicate that teachers in primary schools are flexible in conducting PE classes and activities in either separate or mixed groups. They consider students' individual physical abilities, interests, and emotions in organizing different activities for boys and girls. However, Finnish teachers emphasized more on how the activities also have been done in a way that create movement and joy for all. Thus, whether the activities are conducted in separate or mixed groups or for a specific sport is not their central focus, as the primary goal is creating an inclusive and enjoyable experience for everyone. As one Finnish teacher noted, the decision to conduct activities in single-gender or mixed-gender groups is "like writing on the sand—it can be changed." In contrast, teachers in the KRI also take students' interests and physical abilities into account.

However, their primary focus is on structured lessons and specific sports for both boys and girls. This reflects a more traditional approach that emphasizes technical skills and sport-specific training over fostering movement, enjoyment and developing sustainable attitudes toward physical activities.

Furthermore, Finnish teachers demonstrate more awareness of curriculum, and it is reflected in their interviewees which has not been same in the interviewees with teachers from KRI. It is noticeable that the differences in teachers' awareness and connection to the curriculum between Finland and KRI may stem from the distinct ways PE curricula are established in their schools. PE aims and content are clearly defined in curriculum in Finnish school, however, the teaching methods are not defined, and teachers have a strong autonomy to interpret and implement curriculum. On the other hand, in KRI there is a lack of standardized PE curriculum approved by the Ministry of Education for primary school and teachers must make yearly plans by themselves. While teachers in KRI acknowledged gender biases in their curriculum such as "in gymnastics class for example, boys have six movements, while girls have four movements," the interviews revealed a disconnect between teachers and the curriculum itself. This may result in different positioning for PE teachers in KRI compared to those in Finland, where Finnish teachers play a more interactive role in curriculum development, while teachers in KRI see themselves primarily as implementers of a planned curriculum.

Based on our results it is concluded that more interaction between curriculum and lived experiences of teachers and students in PE could aid developing curriculum more dynamically and as it said as a lived curriculum (Aoki, 1993). The previous studies suggest that effective methods to facilitate gender equity in PE include the development of a curriculum with the students and giving a voice to the students (Parri and Cecilian, 2019). The study by Banville et al. (2021) investigates how PE teachers make curriculum decisions and how these choices align with students' interests, revealing a disconnect between the traditional curriculum and students' preferences. Therefore, addressing the lived experiences of students and teachers in curriculum planning and design can play a crucial role in enhancing the effectiveness of physical education. This aligns with the World Health Organization's emphasis that "all movement counts" in building healthy habits and lifestyles (WHO, 2020).

The statements from teachers in KRI highlight teachers' awareness of how community and family culture, traditions, norms, and beliefs influence gender roles and expectations, which subsequently impact PE classes and activities. Through this awareness, and by adapting teaching strategies which can better cope with cultural contexts, teachers have tried to successfully reduce cultural sensitivity and promote a more balanced approach to gender in PE. This has notably improved participation in sports activities, competitions, and championships, fostering more equitable involvement from all genders. However, the statements of the teachers from KRI show their tendency to view PE primarily through the lens of sports, rather than focusing on movement and overall physical development. In contrast, Finland's emphasis on individual autonomy and equality leads to a habitus focusing more on personal development and choice. The emphasis on honor and athleticism in PE by teachers from KRI often overshadows fundamental concepts such as mental and physical health and lifelong wellbeing, which are essential for all students equally. Thus, a new hypothesis emerges transforming teachers'

perceptions of PE from a sports-centric view to one that emphasizes joy and lifelong movement, and holistic physical development could further contribute to balancing gender participation in PE activities, particularly in contexts where gender roles are strongly defined. Transforming perceptions of PE teachers may significantly promote gender equality in PE classes and activities as the core philosophical goal focuses on sustainable motivation for healthy lifestyle. The incorporation of PE in curricula and teacher training programs can significantly impact the reduction of gender inequality challenges in PE by equipping teachers with more effective and culturally sensitive approaches. The traditional understanding of PE in teaching, curriculum, school and society plus gender expectations by family and society, shapes a habitus that discourages girls from actively participating in PE classrooms where they internalize the belief that physical activities are less appropriate subject for them. However, a shift in the habitus—through increased awareness, culturally relevant PE teaching, and societal reframing of PE as integral to lifelong health and development—could challenge these deeply ingrained norms.

By flexible pedagogy, which emerged as one of the key themes in both Finland and KRI, we refer to teachers' ability to adapt to students' physical, emotional, and cultural needs. Flexible pedagogy has been defined as flexible so no specific meaning has been set for that. However, it mainly focuses on giving students choices about when, where, and how they are ready to participate in learning and class activities, fostering autonomy and agency (Baer, 2023). In PE, this means recognizing and valuing the diverse ways students may respond to physical activities based on their cultural, emotional, and social backgrounds, ultimately promoting greater inclusivity and equality. In this study, flexible pedagogies emerged as teachers in both Finland and KRI demonstrated awareness and sensitivity to the differences in boys' and girls' bodily, emotional, and cultural responses. In Finland teachers' awareness and pedagogical knowledge influenced their ability to communicate effectively with students, encouraging participation in activities, especially for those who may be reluctant to move for reasons such as obesity. However, cultural and gender awareness were more prominently emphasized in the teachers' statements from KRI. Teachers' cultural awareness and insights led them to consider communication with parents, school administration, and students to encourage all students, including girls, to actively participate in PE activities and championships. This approach influenced how communication was managed in a culturally sensitive manner, while also promoting equal opportunities for both boys and girls to engage in various physical activities. Flexible pedagogy is closely related to culturally responsive pedagogy. Similarly, culturally responsive pedagogy emphasizes the importance of understanding students' cultural backgrounds and relating these contexts to teaching and learning experiences. Teachers' cultural awareness allows them to better understand the broader factors influencing gender equity in PE, such as the roles of family, school, and society.

Developing culturally relevant pedagogy could further promote gender equality in PE classes and activities (Olsen et al., 2021). By emphasizing PE activities that foster teamwork and increased movement, students' socioemotional skills and engagement levels could improve, creating an atmosphere that encourages equal participation from both girls and boys. This approach would also help reduce gender biases and stereotypes associated with certain physical activities. This aligns with previous research suggesting that applying culturally responsive pedagogy in primary PE creates an ideal

environment for enhancing cultural competence among students (Olsen et al., 2021; Pacadaljen, 2024). Due to the increasing demographic diversity in classrooms, culturally relevant pedagogies can offer an engaging, meaningful, and relevant learning environment that enables every student to reach their full potential and remain active and functional (Young and Sternod, 2011).

Given the critical role families play in influencing participation in PE, particularly for girls in the KRI, schools should consider sustainable developing strategies to encourage girls in PA. Initiatives such as involving parents in PE activities, organizing community events can help educate families about the importance of PE in fostering their children's academic outcomes, health, wellbeing, and overall development. These efforts can bridge the gap between schools and families, promoting greater support for both boys' and girls' active and meaningful participation in PE. Moreover, PE homework that involves family participation can boost PA levels among adolescents, with a notable impact on increasing activity among girls (Kääpä et al., 2022) which can be extended also to primary level. Therefore, fostering stronger connections and collaboration between schools and families is essential for promoting gender equality in PE.

To ensure respect for gender identity and gender role in education, the quality of teaching is crucial (Parri and Ceciliani, 2019) including in PE. Taking the research of Avraam and Anagnostou (2022) into account, three factors are of importance to address gender disparities in PE: (1) educator training—providing PE teachers with gender sensitivity training to help them identify and challenge their own biases. (2) Inclusive curriculum—designing curricula that feature diverse activities appealing to all genders, moving beyond traditional sports that may exclude girls. (3) Supportive school environments—establishing safe, judgment-free spaces that encourage active participation from both boys and girls without fear of discrimination. Training teachers may be the most effective way to address beliefs related to gender bias in PE classes, which ought to be free from any form of discrimination (Gråstén et al., 2022).

By developing a comprehensive philosophy of what PE encompasses, we argue that we can move beyond stereotypes and gender-biased perspectives, fostering a more culturally adaptable and inclusive understanding of its global purpose. A well-defined PE philosophy can create an inclusive environment where all students, regardless of gender or background, recognize the importance of participation in PE. This approach promotes a more equitable perception of PE, allowing students to engage without the constraints of preconceived notions or biases.

This comparative study highlights the importance of understanding how the global philosophy of PE as lifelong movement (Sheets-Johnstone, 2011) for a healthy life and overall wellbeing is interpreted in different cultural and local contexts. Understanding the cultural context and system can shape our innovative approach to PE, ensuring that it resonates with diverse student backgrounds, cultures and values. Teachers should understand that cultural beliefs and practices shape individuals' perspectives on movement, requiring adapted strategies to engage diverse groups effectively. By incorporating cultural perspectives into the philosophy of PE at school, we can create a more relevant and meaningful experience for all students' despites of their gender, further enhancing their engagement and participation. This aligns with the findings of a review study by Parri and Ceciliani (2019), which emphasizes the role

of socio-cultural contexts in both creating and reducing gender inequality in PE.

Conducting this study benefits both the KRI and Finland. In the KRI, it supports the development of curricula and pedagogical approaches that promote gender equality in PE. In Finland, it offers an opportunity to refine the PE curriculum, particularly by addressing the needs of a more heterogeneous student population, such as through increased immigration. This research will explore the multifaceted factors influencing gender inequality worldwide. As Finland experiences demographic changes due to migration (Statistics Finland, 2018, 2020), it is essential to deepen understanding of the cultural and familial backgrounds of these diverse background students. This insight will facilitate effective navigation of gender equality in a diverse setting, reducing biases and promoting equity in education and PE as pointed out by previous studies. Furthermore, PE has been recognized as an effective means of fostering integration and building interpersonal relationships, which are crucial for mental and physical health.

Many strategies can be adapted to the distinct cultural contexts of KRI and Finland to effectively promote gender equity in PE. Making gender sensitivity training a part of teacher education programs is an important tactic in Finland. Teachers who participate in these kinds of training sessions not only become more conscious of gender biases, but they also acquire the skills necessary to create an inclusive classroom in a more diverse classroom. For instance, Davis (2003) noted that workshops with gender focus help educators develop lesson plans that actively engage both boys and girls in a variety of physical activities. Watson et al. (2021) also underlined that gender equity-focused professional development programs result in more inclusive teaching practices which in turn boost female involvement in sports and physical activities. O'Reilly et al. (2023) suggest that gender-focused interventions can challenge stereotypes by actively incorporating girls' perspectives and experiences. They also suggest that including female role models in PE classes enhances visibility, challenges gender stereotypes, and shifts girls' perceptions of what is possible for them in sports and leadership roles. KRI has demonstrated promise in balancing gender norms through the implementation of community-based programs that involve parents and local communities. Initiatives supporting female sports in partnership with community stakeholders greatly enhanced perceptions of girls' participation in PE (Hermassi et al., 2023; Jeanes et al., 2021). These initiatives give girls access to a network of support by involving parents and local influencers which encourages them to change their attitudes on their capability and integration in PE activities.

Incorporating local and cultural knowledge and activities can further support innovations in enhancing gender equality in PE education in schools (Setiawan et al., 2024). For policymakers in Finland and the KRI, these findings highlight the need to integrate culturally responsive approaches and pedagogies, a student-centered, asset-based approach that connects learning to students' cultural backgrounds, empowering them through meaningful educational experiences (Nieman and Flory, 2024; Young and Sternod, 2011) into PE teacher training and curriculum design. Policies should foster both ontological and epistemological understandings of PE, emphasizing its role in overall wellbeing at individual, societal, and environmental levels while ensuring that cultural diversity and gender equality remain central to educational development.

Strength and limitations of the study

This study has several strengths. It relied on video-stimulated interviews with 14 in-service PE teachers, a substantial sample size for qualitative research. Including both indoor and outdoor lessons provided a comprehensive view of teaching practices. In cross-cultural studies, videos help reduce misinterpretation and allow for direct comparisons of teaching practices. The semi-structured interview guide, using the same open-ended questions, encouraged participants to express their perceptions freely, yielding rich, nuanced data while maintaining consistency. Emphasis on gender balance in participant sampling ensured diverse socio-cultural perspectives. Interviewing teachers from Finland and KRI enabled cross-cultural comparisons, enhancing construct validity by incorporating a wide range of perspectives. Furthermore, 14 in-depth interviews between 90 and 100 min time (including a 30-min segment in the middle that was dedicated to viewing videos), is a major strength in a qualitative study. Finally, the inclusion of teachers meeting specific education and experience criteria strengthened internal validity. Additionally, the involvement of four researchers from different cultural backgrounds in the analysis process further enriched the study.

However, the study has several limitations which should be considered. The small, non-randomized sample and the lack of an experimental setup due to financial constraints, does not allow to generalize the findings to broader populations. While the strategic selection of participants ensured relevance to the research question, the small number may not fully capture the diversity of reflection and experiences, especially across different regions within Finland and KRI. Furthermore, we did not find participants with a master's degree in KRI, so we had to select PE teachers with bachelor's degrees, while the PE teachers in Finland had a master's degree. However, the different education level reflects the actual education of traditional PE teachers in both countries. Nevertheless, presenting videos from two different PE lessons from both regions enhanced the reliability of the results considering different culture contexts. Also, the initial data analyses were carried out independently before being collaboratively discussed among four researchers, which revealed that participants' reflections were consistent relative to their country, increased the general validity. However, since most interviews were conducted in the teachers' native languages and then translated into English, there exists potential for misinterpretation. Also, cultural differences in reflecting practices and the unexplored influence of educational policies made cross-cultural comparisons complicated, which may weaken the construct validity. Finally, although the study provided insights into PE teachers' practices, the analysis could have benefited from a deeper exploration of the specific socio-political, cultural and educational contexts in both regions. Also, more specific gender related questions in interviews could have given deeper understanding of the research question but that wasn't known beforehand because of the study design.

Conclusion

PE classes can serve as a crucial platform for fostering health and wellbeing in society by integrating gender mainstreaming. Teachers' understanding of how social and cultural norms can influence their own and their student's perception on PE is crucial for addressing more equal education. This study aims to explore these dynamics

using a comparative approach to examine how educators perceive and reflect on gender in PE classes and their teaching, school atmosphere and curriculum as well in society.

The objective of this qualitative study was to explore the perceptions, reflections, and experiences of PE teachers on gender and PE in Finland and the KRI. This was accomplished through in-depth, semi-structured interviews using a phenomenological-hermeneutic methodology. The research involved gathering the perceptions and reflections of eight Finnish and six KRI PE teachers regarding their PE teaching, curriculum, and status of PE at school and society. Furthermore, their thoughts on two early recorded videos in the study—one showcasing an indoor PE session and the other an outdoor PE session, both representing typical PE teaching in the respective regions—were analyzed.

Overall, the findings of this study indicate that both Finnish and KRI teachers reported that gender differences were not prominent in primary school, particularly at ages before puberty. Nonetheless, all teachers were aware of the potential impacts of gender on PE. The findings of this study revealed both similarities and differences in teachers' perceptions and experiences regarding PE teaching and activities, particularly when considering gender. Both Finnish teachers and those from the KRI demonstrated awareness of gender differences in physical abilities, emotions, and psychological traits. Reflecting these differences, teachers adapted their teaching methods and activities for boys and girls, either individually or in groups. However, Finnish teachers primarily focused on fostering joy and encouraging movement tailored to each student's interests and circumstances. In contrast, KRI teachers also exhibited flexibility in designing activities that catered to the physical and emotional needs of both boys and girls.

Both Finnish and KRI teachers were aware of the impact that social and familial influences have on boys and girls in PE activities. However, the influence was more pronounced for teachers in KRI, who faced greater cultural and traditional expectations and gender roles. As a result, KRI teachers developed culturally adaptive and innovative strategies to address these challenges in their PE teaching. Finnish teachers, on the other hand, did not encounter the same extent of influence, as they emphasized societal support for PE as a means of promoting overall wellbeing. Interestingly, Finnish teachers did not perceive gender as a significant factor in the curriculum, given the established gender equality in their society. In contrast, KRI teachers referred to a gender-oriented curriculum, often attributing specific activities to boys and girls.

The results of this study can inform the development of more inclusive educational programs for PE teachers, equipping them with culturally relevant pedagogical approaches to challenge gender stereotypes and reduce gender inequality in PE, while considering their cultural and social contexts. A one-size-fits-all approach would not be effective. Additionally, the findings underscore the interdisciplinary nature of PE when addressing gender equality. This insight could foster collaborative programs among teachers from various disciplines, school administrators, families, and communities, all of whom play a role in elevating the status of PE and its importance for the health and wellbeing of society.

Such collaborative and comparative studies could offer valuable insights for teachers and school staff from KRI, allowing them to recognize their unconscious perceptions of gender impacts on PE. By examining different educational contexts, goals, and cultural and social settings, educators can gain a broader perspective, enabling

them to better understand the challenges and explore innovative ways to develop and manage supportive programs that promote gender equality in PE. On the other hand, this comparative study could also benefit Finnish teachers by offering a deeper understanding of how culture and different teaching strategies influence students' perceptions and behaviors. This understanding is particularly relevant as Finland experiences growing diversity within its student population, including migrants from various countries. By learning from the experiences and approaches of teachers in the KRI and other regions, Finnish educators can gain valuable insights into the diverse needs of their students and better tailor their support systems. Ultimately, mutual learning and exchange between educators from both contexts can enhance the quality of PE and support the holistic development of students in diverse cultural settings.

To sum up, addressing gender disparities in PE requires a comprehensive approach that integrates inclusive teaching and pedagogical approaches, gender-responsive curricula, and supportive school programs, family and community involvement strategies, and educational policies aimed at fostering equity in PE. Creating a PE environment that prioritizes inclusivity and equity is key to empowering every student to thrive both physically and emotionally. To do this further comparative studies should focus on exploring students' perceptions and experiences regarding physical PE. Understanding how students from diverse cultural and social backgrounds engage with and respond to PE can provide critical insights into their motivations, barriers, and attitudes. This approach would help identify factors that shape their participation and inform strategies to create more inclusive and effective PE programs tailored to their needs. Moreover, future research should continue to explore the effectiveness of various culturally relevant interventions aimed at reducing gender disparities in PE, as well as the long-term impacts of these interventions on students' PA levels and attitudes towards sports and exercise. Moreover, given the nature of gender equality in PE and its interconnection with social and cultural factors, there is a need for more interdisciplinary and collaborative studies and approaches to address these issues. This would contribute to improving PE curricula for teacher education. Furthermore, greater consideration and investment in international projects could help identify the multifaceted factors that promote gender equality in education and PE worldwide.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

The studies involving humans were approved by Finnish National Board on Research Integrity. The studies were conducted in accordance with the local legislation and institutional requirements. The participants provided their written informed consent to participate in this study. Written informed consent was obtained from the individual(s) for the publication of any potentially identifiable images or data included in this article.

Author contributions

GM: Conceptualization, Formal analysis, Investigation, Methodology, Validation, Data curation, Writing – original draft. JK: Conceptualization, Data curation, Formal analysis, Methodology, Validation, Investigation, Writing – review & editing. WM: Conceptualization, Data curation, Formal analysis, Methodology, Validation, Writing – review & editing, Investigation. PL: Conceptualization, Data curation, Formal analysis, Methodology, Validation, Writing – review & editing, Investigation, Software.

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The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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