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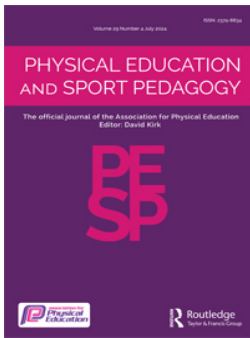
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The hows and whys of gendered grouping practices in primary physical education in England

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ABSTRACT

Background: Single- and mixed-sex grouping have long been a focus of attention in physical education (PE) and are matters often at the fore of discussions about curriculum planning, teaching, and learning. Nonetheless, there remains little consensus or guidance on which approach (or combination of approaches) should be preferred in PE in primary and secondary schools in England. Further, while single- and mixed-sex grouping have been extensively researched in PE in secondary schools, hitherto there remains an absence of research examining these practices in PE in primary schools. This research sought to address gaps in the literature to build a stronger evidence-base for decisions about gendered grouping practices in PE. Specifically, the study was designed to provide a snapshot of current single- and mixed-sex grouping arrangements in primary PE in England.

Method: Data were collected via an online survey which was administered to all state-funded mainstream and special schools providing for children in Key Stage 1 (aged 5–7) and/or Key Stage 2 (aged 7–11) in the North-East of England (917 at the time of study). A total of 254 surveys were completed giving a response rate of 27.7%.

Results: The responses indicate that nearly all schools were using mixed-sex grouping for PE, with children typically remaining in their mixed-sex form class and taught the same curriculum activities by their class teacher. Notably, no schools were using single-sex grouping for all PE lessons, although some were teaching combinations of single- and mixed-sex classes across different year groups and/or different activities of the curriculum. The responses also challenge the traditional dichotomous representation of single- and mixed-sex grouping by showing that some schools were grouping children into smaller single-sex groups within mixed-sex PE classes, particularly in activities requiring bodily contact. Some schools were also organising children into smaller mixed-sex groups within mixed-sex PE classes to encourage boys and girls to work together and support one another in their learning. Reported reasons for current grouping arrangements reflected both pragmatic considerations and perceived educational benefits of particular approaches, including school timetabling and consideration of gender equity in curriculum provision in PE.

Conclusion: The conclusion calls for further research to explore the efficacy of single- and/or mixed-sex grouping in supporting and meeting the needs of all children in primary PE. Relatedly, we also highlight the importance of

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intersectional perspectives being brought to single- and mixed-sex grouping debates to inform the development of more nuanced, evidence-based policies and practices that promote inclusion and celebrate the diversity of children. We further suggest a need for research and policy to reconsider the language used in grouping practices to reflect commitments to gender diversity and gender equity.

Introduction

There has been considerable debate in England and other Western countries about the relative benefits of single- and mixed-sex grouping in physical education (PE), and there remains a lack of consensus as to which approach (or combination of approaches) should be preferred in primary and/or secondary schools.¹ Research over the past two decades has affirmed that single-sex grouping and curriculum provision feature prominently in core (compulsory, non-examination) PE in Key Stage 3 (aged 11-14) and Key Stage 4 (aged 14-16) in secondary schools in England (Harris and Penney 2000; Lines and Stidder 2003; Stride et al. 2022; Wilkinson and Penney 2023a). In a recent national survey of over 800 co-educational secondary schools in England, for example, Wilkinson and Penney (2023a) found that 69.6% of schools were 'fully' or 'mostly' using single-sex grouping in core PE in Year 7, rising to 76.5% in Year 8 and 78.8% in Year 9, before falling to 68.1% in Year 10 and 63.5% in Year 11. At present, however, there remains a comparative absence of detailed and contemporary large-scale empirical data about single- and mixed-sex grouping arrangements in primary PE in England. While prior research has provided some indication of trends in the incidence of these arrangements in primary PE, including a preference for mixed-sex grouping with selective periods of single-sex grouping for team games (Bayliss 1984; Graydon 1980; Leaman 1984; Scraton 1986; 1992; 1993), much of this research is anecdotal, limited in scale to a small number of primary schools in a single local education authority (LEA), and/or lacks currency having been conducted in the 1980s and 1990s. Internationally, research offering scale and depth is similarly lacking, although mixed-sex grouping is reported as being common in PE in many Western and European countries, including Sweden, Norway, the United States, and Australia, and more frequently employed in PE in primary than secondary schools (United Nations Educational, Scientific and Cultural Organization 2020). Previous research has also tended to characterise gendered grouping practices in PE as a simplistic dichotomy between single- and mixed-sex grouping (Bayliss 1984; Graydon 1980; Leaman 1984). As highlighted by Wilkinson and Penney (2023a), in doing so, it has therefore largely neglected the complexities and nuances of these approaches, including the use of these approaches simultaneously (e.g. students organised into single-sex groups within mixed-sex PE classes).

As researchers and teacher educators who are committed to advancing equity and inclusion in PE for all students, we contend that it is both timely and important to extend understandings of single- and mixed-sex grouping arrangements in primary PE. In England, primary PE has traditionally been taught by generalist classroom teachers who also teach a range of different subject areas in their school (Blair and Capel 2011; Jones and Green 2017). More recently, research suggests that primary PE is increasingly likely to be taught by one or a combination of three different groups: generalist classroom teachers, specialist primary PE teachers, and/or peripatetic sports coaches (who are usually 'outsourced' from commercial providers) (Jones and Green 2017). This contrasts markedly with secondary schools where PE is taught by specialist PE teachers. The primary school years are also a formative period for all children, with previous research showing that early learning experiences are critically important in shaping their understandings of and attitudes towards gender in relation to PE, sport, and society more broadly (Horton 2023; Scraton 1992; Williams, Bedward, and Woodhouse 2000), as well as their continuing involvement in sport and physical activity throughout life (Jess, Keay, and Carse 2016; Kirk 2005; Scraton 1992). Single- and mixed-sex grouping arrangements are also currently a major focus of policy and research efforts in many Western

countries to address the needs of a growing number of school-aged children who are expressing their gender identities in diverse and fluid ways (Ferguson and Russell 2023; Government of New South Wales 2022; National Education Union 2019; Scottish Government 2021; United States Department of Education 2021). While these efforts have largely focused on children in secondary schools, an emerging body of research highlights that some children are socially transitioning during or before primary school (Durwood, McLaughlin, and Olson 2017; Horton 2023).² In the absence of systematic contemporary research evidence, however, there remains a lack of clarity about how and why single- and/or mixed-sex grouping arrangements are adopted for and within PE across the years of primary schooling.

This study was designed to extend research and knowledge pertaining to single- and mixed-sex grouping in primary PE in England, while also providing an important extension to research addressing these practices in secondary PE (Wilkinson and Penney 2023a). Specifically, the study explored the incidence of single- and mixed-sex grouping practices in primary PE in England, including their use *within*-class groupings as well as *between*-class groupings, and the use of combined approaches. It also sought to extend understanding of the rationale for single- and/or mixed-sex grouping practices in primary PE, and in doing so provide a stronger evidence-base for decisions about these practices in PE. In presenting the study in this way, we recognise that in employing the language of single- and mixed-sex grouping practices, we risk our research contributing to the sustained legitimisation and reproduction of binary gendered logic in grouping practices in PE. We return to reflect on these matters in the conclusion to this paper. The study addressed the following two research questions:

- How prevalent are single- and mixed-sex grouping practices in PE for Years 1–6 in state-funded mainstream and special schools in the North-East of England?³
- Why are single- and mixed-sex grouping practices used in PE for Years 1–6 in state-funded mainstream and special schools in the North-East of England?

Research perspectives on single- and mixed-sex grouping practices in PE in England

The relative merits of single- and mixed-sex grouping have been highly contested and widely debated among researchers and teachers for several decades, and opinions remain polarised on which approach (or combination of approaches) is likely to provide the best or most effective learning environment for students in PE (Lines and Stidder 2003; Scraton 1992; Wallace, Buchan, and Sculthorpe 2020; Wilkinson and Penney 2023a). However, most of these debates have centred on secondary PE, with less attention given to primary PE. Previous research at the secondary level has shown that many PE teachers feel that single-sex grouping contributes to students' feelings of emotional safety because it provides a safer space for them to publicly display their bodies and performances (e.g. they would be less self- and/or body-conscious performing in front of same-sex peers) and provides a situation where they are able to learn together with most of their friends (Hills and Croston 2012; Murphy, Dionigi, and Litchfield 2004; Scraton 1992; Wilkinson and Penney 2023a; Wright 1996). Relatedly, single-sex grouping has often been used as a means of accommodating the cultural and religious needs of Muslim girls in primary (Dagkas, Benn, and Jawad 2011) and secondary PE (Scraton 1992; Stride et al. 2022; Wilkinson and Penney 2023a), most notably because it provides a situation where their bodies and performances are less exposed to boys and male PE teachers. Single-sex grouping has also been justified by policy makers and PE teachers based on accommodating differences in physical development between boys and girls (e.g. in size and strength), particularly in competitive team games in upper secondary school (Department for Education 2023; Rugby Football Union 2018; Wilkinson and Penney 2023a).

Previous research suggests that overall, boys and girls are more likely to favour single- than mixed-sex grouping in PE, particularly in activities involving increased body exposure and/or direct

physical contact (Wallace, Buchan, and Sculthorpe 2020; Youth Sport Trust 2023a; 2023b). However, we add a cautionary note here in relation to the adult-centric nature of much of this research. Although PE is increasingly recognising the importance of researching *with* young people, rather than conducting research *on* them (O'Sullivan and MacPhail 2010), there remains a relative marginalisation of student voice research in the field.

The merits of single-sex grouping in PE have however repeatedly been questioned from gender equality and diversity perspectives, particularly at the secondary level. Research spanning several decades has shown that single-sex grouping reinforces gender-stereotyped behaviour and undermines the principles of inclusion by depriving boys and girls of access to all areas of the secondary PE curriculum (Bayliss 1984; Hills and Croston 2012; Scraton 1992; 1993; Wilkinson and Penney 2023a). More recently, single-sex grouping has also been shown to underpin many of the negative experiences of gender diverse students in secondary PE, most notably because this arrangement may require students to participate in a class that conflicts with their self-identified gender identity and/or identify with binary gender categories (e.g. boy or girl) that do not reflect their identity (e.g. non-binary) (Ferguson and Russell 2023; Kettley-Linsell 2022). Further, it is rarely the case that students are enabled to flexibly move between single-sex groups in PE (Ferguson and Russell 2023; Kettley-Linsell 2022).

Comparatively, mixed-sex grouping is often perceived as providing all students with access to a greater range of activities in the curriculum, including those that are typically associated with or restricted to a particular sex (Hills and Croston 2012; Scraton 1993; Wilkinson and Penney 2023a). Mixed-sex grouping is also reported as an effective approach to encourage cross-gender friendships and provide boys and girls with meaningful opportunities to learn and collaborate with one another in primary (Lines and Stidder 2003; Scraton 1992) and secondary PE (Murphy, Dionigi, and Litchfield 2004; Scraton 1993; Wilkinson and Penney 2023a; Wright 1996). Nonetheless, there has been growing recognition that mixed-sex grouping is not an assured solution to the provision of equal opportunities and is not uniformly beneficial for all students in PE. For example, past studies at the secondary level have shown that mixed-sex grouping can contribute to the reproduction of gendered power relations by providing girls with 'equal access to an unequal situation in PE' (Scraton 1986, 89). Although mixed-sex grouping means that boys and girls have equal access to the same activities in PE, many secondary schools internationally adopt a male-oriented curriculum, with the range and scope of activities offered aligning more closely with boys' interests and experiences than with girls' (e.g. games and other competitive activities rather than dance, gymnastics, and health-related exercises) (Hills and Croston 2012; O'Sullivan, Bush, and Gehring 2002; Scraton 1992; 1993; Vertinsky 1992). It has also been well documented that in situations where team games are the focus of the lesson, boys tend to alienate and marginalise girls by dominating play in game situations (e.g. by not passing to girls) in secondary PE (Griffin 1984; Hills and Croston 2012; Leaman 1984; Scraton 1993; Stride et al. 2022; Wilkinson and Penney 2023a). Research has also indicated that mixed-sex grouping does not necessarily result in the equal treatment of boys and girls in secondary PE (Griffin 1984; Scraton 1986; 1993; Stride et al. 2022; Wilkinson and Penney 2023a; Wright 1996), with boys tending to receive a greater proportion of teachers' time and attention than girls. Mixed-sex grouping has thus been shown to undermine the learning experiences of some girls, diminish their perceived self-competence, and ultimately discourage them from participating in secondary PE (Griffin 1984; Hills and Croston 2012; Scraton 1993; Wallace, Buchan, and Sculthorpe 2020; Wright 1996).

Method

The design and administration of the survey

Data were collected via an online survey which was designed using the JISC Online Surveys platform (<https://www.onlinesurveys.ac.uk/>). The survey was adapted from previous studies of

grouping arrangements in PE in schools in England (Wilkinson and Penney 2023a; 2023b) and included a combination of multiple-choice and free-text questions that were divided into four sections: demographic information; the incidence of single- and mixed-sex grouping in PE; the incidence of within-class grouping in PE; and the reasons for using single- and mixed-sex grouping arrangements in PE. For questions relating to the incidence of single- and mixed-sex grouping in PE, the survey provided a range of options for respondents to choose from: fully single-sex grouping; fully mixed-sex grouping; mostly single-sex grouping; mostly mixed-sex grouping; or a balance of single- and mixed-sex grouping. Free-text questions asked respondents why students were separated into single- and/or mixed-sex classes for PE in their school, why particular within-class grouping arrangements were used in PE in their school, and their preferences for single- and/or mixed-sex grouping in PE. Approval to conduct the survey was received from the ethics committee of the lead author's university.

The survey was first piloted with a convenience sample of six Subject Leaders of PE (in primary schools not involved in the main study) for comment on usability, comprehensibility, and clarity of questions. The Subject Leader of PE was recognised as a key person involved in formulating and developing policies relating to teaching and learning in PE (including grouping arrangements), although it was acknowledged that they may not necessarily be a teacher with specialist training in PE. The main survey clarified respondents' position and background in PE, with this reported below (see Table 2).

A small number of formatting changes were made to the survey based on the pilot feedback received, including the addition of a signposting introduction to distinguish between single- and mixed-sex classes in PE and single- and mixed-sex grouping within these classes in PE (e.g. dividing children into smaller single- and/or mixed-sex groups within mixed-sex classes). The finalised survey was subsequently administered to all mainstream and special schools providing for children in Key Stage 1 and/or Key Stage 2 in the North-East of England (917 at the time of study). The school system in the North-East of England is complex and multi-layered, with several schools offering provision to children in Key Stage 1 and/or Key Stage 2, including infant, junior, primary, first, middle, and all-through schools. The North-East of England is also one of only a few regions in England that includes LEAs that operate a three-tier school system (first, middle, and high schools). School contact details were sourced directly from individual school websites and an email was sent to the school office administrator with a request that it was forwarded to the Subject Leader of PE in their school. The email explained the purpose of the study, assured anonymity of responses, requested participation in the study, and provided the hyperlink to the survey. Respondents were required to indicate consent by ticking a check box before they could proceed to the survey questions. Participation in the study was incentivised through the opportunity to be entered into a draw to win one of seven One4all gift cards valued at £50 each. The survey was open for completion for four months (between January and April 2023) and all non-respondents received a reminder email two weeks before the survey closed. A total of 254 surveys were completed giving a response rate of 27.7%.

The demographic characteristics of participating schools and respondents are presented in Tables 1 and 2. As shown in Table 2, the majority of respondents (79.1%) reported that they had no training in PE. This was despite some 93.7% identifying their role as subject leader of PE.

Analysis of survey responses

The survey data were analysed in two ways. First, descriptive statistics for multiple-choice questions were calculated using JISC Online Surveys. Second, responses to free-text questions were analysed using content analysis (Bardin 2011). Initially, the responses were read multiple times to achieve familiarity with the data and identify recurring words and phrases that were relevant to the aims of this study. These words and phrases were then assigned a provisional descriptive label (e.g. time-tabling groups and staff shortages) and free-text responses were further assessed to determine the

Table 1. Characteristics of participating schools.

		Survey (<i>n</i> = 254)	
		Frequency	%
Location	Darlington	7	(2.8%)
	Durham	34	(13.4%)
	Gateshead	23	(9.1%)
	Hartlepool	13	(5.1%)
	Middlesbrough	17	(6.7%)
	Newcastle	27	(10.6%)
	North Tyneside	30	(11.8%)
	Northumberland	47	(18.5%)
	Redcar and Cleveland	12	(4.7%)
	South Tyneside	15	(5.9%)
	Stockton-on-Tees	9	(3.5%)
	South Tyneside	20	(7.9%)
Phase of education/SEN	Infant	7	(2.8%)
	First	17	(6.7%)
	Primary	205	(80.7%)
	Middle	12	(4.7%)
	All-through	2	(0.8%)
	Special education	11	(4.3%)
School type	Academy convertor	84	(33%)
	Academy sponsor led	12	(4.7%)
	Community	102	(40.2%)
	Free	2	(0.8%)
	Foundation	32	(12.6%)
	Voluntary	22	(8.7%)
Gender of entry	Co-educational	254	(100%)
Admission policy	Non-selective	254	(100%)
Number of students	Less than 250	134	(52.8%)
	From 251 to 500	96	(37.8%)
	More than 500	24	(9.4%)
Ofsted rating	Outstanding	30	(11.8%)
	Good	181	(71.3%)
	Requires improvement	12	(4.7%)
	Data is not available	31	(12.2%)
Free school meals proportion	Less than 15%	55	(21.7%)
	From 15% to 30%	68	(26.8%)
	More than 30%	126	(49.6%)
	Not recorded	5	(1.9%)

Table 2. Characteristics of participating respondents.

		Survey (<i>n</i> = 254)	
		Frequency	%
Role	Subject Leader of PE	238	(93.7%)
	Head/Deputy head	5	(1.9%)
	Class teacher	7	(2.8%)
	Sports coach	1	(0.4%)
	Office administrator	2	(0.8%)
	Prefer not to say	1	(0.4%)
	Completed training in PE	Yes	52
No		201	(79.1%)
Prefer not to say		1	(0.4%)
Length of time teaching	Less than one year	2	(0.8%)
	2–5 years	41	(16.1%)
	5–10 years	85	(33.5%)
	More than 10 years	122	(48%)
	Prefer not to say	4	(1.6%)

accuracy and comprehensiveness of these labels. This process involved moving back and forward through free-text responses, forming new descriptive labels when they did not fit with provisional labels (e.g. ensuring equal opportunities), identifying relationships among the descriptive labels and

assigning these to overall category labels (e.g. timetabling groups and staff shortages to contextual constraints), and finding illustrative excerpts to support the development of these labels. This process continued until all meaningful data had been identified and labelled. Lastly, percentages and frequency counts were calculated based on the total number of times a category label appeared in the data. The analysis process was undertaken by the lead author with co-authors involved in collective reflection directed towards refinement of category labelling and representation of categories in reporting of data. In reporting findings, for all instances where the percentage figure is less than 10%, the actual number of responses rather than percentage is reported to provide greater clarity about the extent to which particular category labels were evidenced in qualitative comments.

Use of single- and mixed-sex grouping arrangements in PE

The analysis of the survey data revealed that the organisation of PE in Key Stage 1 and Key Stage 2 was predominantly in mixed-sex classes. As shown in Tables 3 and 4, nearly all schools in the region were teaching children in mixed-sex classes for all PE lessons, with similar patterns found across Key Stage 1 and in Year 4. Mixed-sex grouping was similarly the dominant approach in PE in Year 5 and Year 6, although a slightly greater number of schools were offering a combination or balance of single- and mixed-sex PE classes across different activities of the curriculum in these year groups. This was particularly the case in primary and middle schools that had two or more classes in each year group. Free-text responses that were received clarified that the greater number of form classes and/or children in these schools meant that they had more flexibility to offer single-sex grouping arrangements for PE. Notably, no schools were using single-sex grouping for all PE lessons. Tables 3 and 4 provide full details of the frequencies and percentages of single- and mixed-sex grouping arrangements by year groups in PE in Key Stage 1 and Key Stage 2.

In the section that follows we consider the reasons that respondents offered for using single- and/or mixed-sex grouping arrangements in PE.

Reasons for mixed sex grouping arrangements in PE

Respondents were asked to provide details of the reasons for using single- and/or mixed-sex grouping arrangements in PE in Key Stage 1 and/or Key Stage 2 in their school, to which 242 (95.3%) provided a response. For the most part, grouping decisions in PE reflected pragmatic or contextual constraints, although several respondents also identified benefits of particular approaches,

Table 3. Single- and mixed-sex grouping by year groups in PE in Key Stage 1.

Type of grouping	Year 1	Year 2
All lessons are mixed-sex	236 (92.9%)	238 (93.7%)
Most lessons are mixed-sex	1 (0.4%)	1 (0.4%)
All lessons are single-sex	0 (0%)	0 (0%)
Most lessons are single-sex	1 (0.4%)	1 (0.4%)
Balance of single- and mixed-sex lessons	0 (0%)	0 (0%)
Not applicable	16 (6.3%)	14 (5.5%)

Table 4. Single- and mixed-sex grouping by year groups in PE in Key Stage 2.

Type of grouping	Year 3	Year 4	Year 5	Year 6
All lessons are mixed-sex	241 (94.9%)	240 (94.5%)	223 (87.8%)	224 (88.2%)
Most lessons are mixed-sex	1 (0.4%)	1 (0.4%)	4 (1.6%)	5 (1.9%)
All lessons are single-sex	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Most lessons are single-sex	1 (0.4%)	1 (0.4%)	1 (0.4%)	1 (0.4%)
Balance of single- and mixed-sex lessons	0 (0%)	0 (0%)	4 (1.6%)	4 (1.6%)
Not applicable	11 (4.3%)	12 (4.7%)	22 (8.6%)	20 (7.9%)

including being able to provide equitable access to the curriculum for all students and/or promote a positive learning environment in PE. The responses are reported below under the broadly encompassing headings ‘contextual constraints’, ‘equity and PE curriculum’, and ‘learning and enjoyment’.

Contextual constraints

In line with previous findings (Stride et al. 2022; Wilkinson and Penney 2023a), several respondents described how the complexity of the school context and other school restrictions influenced (or determined) their grouping decisions in PE. A significant proportion of respondents (53.3%) explained that the small size of the school meant that there were often not enough children (particularly if the school had only one class in each year group) to have separate boys’ and girls’ classes for PE, and consequently students attended PE in their mixed-sex form classes. One respondent summed up this situation as follows:

We’re a very small school with less than 20 students per class. So, children are taught PE in their mixed-sex form classes. We don’t have the class sizes to split them into single-sex groups. (Subject Leader of PE, First School)

Another respondent clarified that class sizes in special schools were small to provide more targeted support to children with additional needs:

It’s mixed[-sex grouping] because we have small classes of around 8–10 children due to their disability needs. (Subject Leader of PE, Special School)

Relatedly, several respondents (31.8%) explained that single-sex grouping was not possible within the constraints of the school timetable and staffing. This was particularly associated with situations where classes were staffed by a single teacher and timetabled PE at a given time. Fewer respondents ($n = 20$) also explained that the lack of availability of facilities in their school meant that there was not enough physical space to organise children into single-sex classes for PE. The following comments were typical:

Children are taught PE (and all other subjects in the school) in their form classes by their class teacher. There isn’t the option to split these classes [into single-sex classes] because there is only one teacher to teach the whole class. (Subject Leader of PE, Primary School)

We group them this way [in mixed-sex groups] due to class timetables. All classes are timetabled PE separately. We also don’t have the hall/field space to split them [into single-sex classes]. (Subject Leader of PE, Primary School)

Other less frequently reported reasons for using mixed-sex grouping in PE were that the school had an imbalance of boys or girls in a particular year group (meaning that class sizes would be too large or small if children were separated for PE) ($n = 2$), the school had an ethos of inclusion and so children received common lessons in all subjects ($n = 2$), or that respondents had little or no experience and/or confidence in their ability to teach PE to single-sex classes ($n = 2$).

Equity and PE curriculum

Despite mixed-sex grouping being regarded as the only feasible option for PE in many schools, most respondents expounded the educational benefits of the approach.⁴ Many respondents (29.8%) reported that mixed-sex grouping was important in ensuring that all children had equal access to a common curriculum in PE. As noted, previous research has indicated that mixed-sex grouping has resulted in many secondary schools adopting a narrow male-oriented model of PE (Hills and Croston 2012; O’Sullivan, Bush, and Gehring 2002; Scraton 1992; 1993). However, several respondents in this study stressed that they had worked conscientiously to address issues of gender equity in curriculum provision in PE. For the most part, this meant providing a ‘*broad and balanced*

curriculum’ which encompassed activities and experiences that were relevant to the interests of boys and girls (e.g. a variety of team games, athletics, dance, gymnastics, fundamental movement skills), and/or which encouraged cooperation rather than competition and an individualistic orientation among children. This is clear in the following comments:

We believe that all children regardless of their gender should have equal opportunities and access to PE. So, our curriculum offer is the same to all children. We offer a broad and balanced curriculum built around a range of sports and skills (e.g. a variety of team games, athletics, dance, gymnastics). (Subject Leader of PE, Primary School)

We offer a curriculum that emphasises a range of different activities. We also focus on developing the skills that are the foundation of these activities (throwing, catching, running), as well as life skills (communication, cooperation, rather than competition) that both sexes can access at a similar level. (Subject Leader of PE, Primary School)

Mixed-sex grouping was also perceived by some respondents ($n = 16$) as an important means of providing boys and girls with access to activities that provided scope to challenge traditional gender boundaries and expectations. Two respondents commented:

We strive to offer a range of activities that appeal to the interests of all children and encourage them to participate in activities that break down gender stereotypes (boys and girls do dance and football together). (Subject Leader of PE, Primary School)

We don’t want children leaving PE thinking that certain activities are just for girls/boys. So, we try and avoid teaching gender specific activities to set an example that sports are for all and are not defined by gender. (Subject Leader of PE, Primary School)

Relatedly, a smaller number of respondents ($n = 8$) were offering activities that traditionally have not been perceived as overtly gendered (e.g. lacrosse, handball, outdoor adventurous activities [OAA]) often in conjunction with team games, athletics, and dance) to diversify the experiences of children and deliver more equitable and enjoyable learning opportunities in PE. One respondent explained:

We also offer a range of non-traditional activities (handball, lacrosse, OAA) that children have no prior experience of to promote parity in the provision of PE. (Subject Leader of PE, Primary School)

Previous research provides some support for this approach, showing that less overtly gendered activities have the potential to contribute to broader perceptions of boys’ and girls’ interests and abilities, encourage greater mutual respect and positive interactions between boys and girls, and/or develop more positive conceptions of self among boys and girls in PE (Hills and Croston 2012; Humberstone 1990; Scraton 1992; 1993).

Learning and enjoyment

Mixed-sex grouping was also regarded as an important means of encouraging boys and girls to learn and enjoy activities together in PE. Specifically, several respondents ($n = 28$) believed that mixed-sex grouping encouraged cross-gender friendships, fostered cooperative and collaborative learning between boys and girls, and/or facilitated an increase in mutual understanding and respect. From respondents’ perspectives, children were therefore more engaged and comfortable in mixed-sex PE lessons, which resulted in them making more progress in their learning and development of interpersonal skills. Two respondents summed up their feelings as follows:

Boys and girls benefit from working together and interacting with each other in PE. By working together, they learn from each other and develop their communication, team working, and leadership. (Subject Leader of PE, Primary School)

Children are grouped like this [in mixed-sex classes] to help build relationships, promote teamwork and working collaboratively, and help break down the stigma that anyone can be good and participate in a particular sport. (Subject Leader of PE, Primary School)

These points are supported by research indicating that students are more likely to participate in PE and have more enjoyable experiences if they feel comfortable and supported by their peers (Hills and Croston 2012; Scraton 1992; 1993; Wilkinson and Penney 2022; Wright 1999).

There was also a common belief among some respondents ($n = 13$) that the age and stage of development of children in their school meant that separation by sex was not warranted in PE in Key Stage 1 and/or Key Stage 2. Specifically, these respondents suggested that there were no significant biological differences between boys and girls (e.g. in size, strength, stamina) at these Key Stages, and as such they were able to participate fairly and safely together in mixed-sex PE classes. Two respondents explained:

Maybe it's different in high school, but we don't believe that children should be separated by sex at this age. We only have them up to the age of 9 (pre-puberty), so they're just young and we feel there are no significant physical differences at this time (Subject Leader of PE, First School).

We feel that mixed-sex grouping is more appropriate for the age of the children in our school. At primary level, there is not much difference between boys and girls, so they can participate more equally and safely in mixed sports. (Subject Leader of PE, Primary School)

It is widely established that before the onset of puberty, there are no significant physical differences between boys and girls (e.g. they grow in height and weight at about the same rate) (De Meester et al. 2020; Scraton 1986; 1993). Some evidence does point to differences between boys and girls in their gross motor skills, although this is largely the outcome of gender differences in socialisation (e.g. boys tend to be more physically active than girls in infancy and throughout childhood) (Marta et al. 2012; Young 1980). As children transition into adolescence, however, biological differences (e.g. in muscular development) between boys and girls emerge and provide an advantage for boys in some activities of the curriculum, particularly those requiring bodily contact such as rugby and football (De Meester et al. 2020; Piotrowski 2013). These differences have led to concerns among secondary PE teachers about the safety of girls in mixed-sex PE classes, and consequently many have chosen to retain single-sex classes to safeguard the wellbeing of girls in PE (Lines and Stidder 2003; Wilkinson and Penney 2023a).

A very small number of respondents ($n = 4$) expressed the view that mixed-sex grouping was important in '*providing inclusive experiences for trans and gender diverse children in PE*'.⁵ While these respondents did not elaborate on this assertion, previous research indicates that most trans and gender diverse students (e.g. non-binary students) are strongly in favour of mixed-sex grouping in PE, most notably because it provides an environment where there is less emphasis on binary gender labels and expectations (Ferguson and Russell 2023). In this regard, mixed-sex grouping has been shown to reduce the likelihood of trans and gender diverse students being misgendered because it does not require them to feel positioned within a specific binary gender category (Ferguson and Russell 2023; Kettley-Linsell 2022). That said, it is important to note that mixed-sex grouping is not a panacea to combat the issues that trans and gender diverse students encounter in PE. Research consistently shows that irrespective of the grouping arrangement adopted in PE, many trans and gender diverse students continue to experience unsafe and hostile environments characterised by bullying, de-legitimisation, and harassment from peers and adults (Horton 2023; Phipps and Blackall 2023). These experiences can leave them feeling marginalised, excluded, and/or unable to express their gender in ways that are affirming to them (Ferguson and Russell 2023; Horton 2023; Kettley-Linsell 2022).

Reasons for using a combination of single- and mixed-sex grouping in PE

Only a few reasons were given for using single-sex grouping in PE in Key Stage 1 and/or Key Stage 2, reflecting the lack of adoption of this arrangement in schools in the sample. The most frequently reported reason for introducing some single-sex grouping (particularly in Year 5 and Year 6) was to help in the transition from primary to secondary school ($n = 3$). As noted earlier, most secondary

schools in England use single-sex grouping in core PE in Key Stage 3 and Key Stage 4, although some retain mixed-sex grouping in Year 7 (the first year of secondary school) to provide students with a sense of continuity, familiarity, and/or comfort as they transition from primary to secondary school (Wilkinson and Penney 2023a). Two respondents commented:

We use some single-sex grouping in Year 5 and Year 6 to get the children ready for secondary school. (Subject Leader of PE, Primary School)

We group Year 6 by gender for final term in preparation for high school. (Subject Leader of PE, Primary School)

The nature of different activities in the curriculum was also posited as an important factor in the decision to use a combination of single- and mixed-sex grouping in PE. There was a perception among a small number of respondents ($n = 4$) that single-sex grouping was beneficial in activities of a competitive nature and in circumstances where the prior socialisation of children placed them at a disadvantage (e.g. in terms of experience) relative to those of the opposite sex. Comparatively, mixed-sex grouping was seen as being more suited to activities that reduced competition and/or encouraged teamwork between children. These points are reflected in the following comments:

Single-sex grouping is more beneficial in sports (e.g. tag rugby and football) where there is often a big difference in experience and performance levels between the sexes. Mixed-sex grouping is more beneficial in other sports (e.g. gymnastics) where different sexes can support and demonstrate to each other. (Subject Leader of PE, Middle School)

We use single-sex grouping in football to give the girls confidence to participate without the boys dominating play. (Subject Leader of PE, Primary School)

The following section highlights that combining approaches was further evidenced in respondents' descriptions of within-class grouping arrangements.

Within-class gendered grouping arrangements in PE

Several schools (11.4%) were also dividing children by sex (same- and/or opposite sex) within some mixed-sex PE classes. Two predominant forms of grouping were identified and varied according to the nature of the activity taking place and/or the objectives of a particular lesson (e.g. social, physical). In some schools ($n = 21$) children were formed into single-sex groups within mixed-sex PE classes and provided with modified or alternative activities to provide safer and more private spaces for children to participate in PE. One respondent explained:

As they get older, boys can become more aggressive and physical than girls in particular sports like rugby. So, from a safety point of view, we separate them and offer girls tag and boys contact rugby within the same lesson. (Subject Leader of PE, Middle School)

Previous studies in secondary schools have reported similar findings, with PE teachers maintaining mixed-sex provision for warm-up and conditioning activities before separating children into single-sex groups and spaces (e.g. conducting activities in different sections of the sports hall) during game play in competitive team games (Koca, Atencio, and Demirhan 2009; Scraton 1992; 1993; Wilkinson and Penney 2023a). Other studies have also noted secondary PE teachers modifying scoring and rules (e.g. awarding extra points to goals scored by girls) to facilitate the involvement of girls and give them a fairer chance to succeed when playing games with boys in mixed-sex PE classes (Harris and Penney 2000; Murphy, Dionigi, and Litchfield 2004; Vertinsky 1992; Wright 1996; 1999). While these approaches are clearly well intentioned in their efforts to promote greater participation by girls in PE, they may nonetheless serve to reinforce traditional ideas about gender-appropriate behaviour (e.g. that contact rugby is not for girls) and gender differences in levels of competence (e.g. that girls are not strong or skilled enough to hold their own).

Like the teachers in Scraton's (1992; 1993) research, a small number of respondents ($n = 8$) in our study were also aware of the potential for boys and girls to organise themselves into single-sex groups within mixed-sex PE classes, particularly in dance, gymnastics, and competitive team games. Hence, these teachers explained that they separated boys and girls into smaller mixed-sex groups within mixed-sex PE classes to encourage positive interactions and improved relationships. The following comment captures this view:

During mixed-sex PE lessons I often see single-sex groupings naturally occur. So, I sometimes split them into mixed-sex groups as I think it's good to encourage children to work with others they wouldn't usually play with. (Subject Leader of PE, Primary School)

Previous research in secondary schools provides some indication why boys and girls may be reluctant to mix in some mixed-sex PE classes. This research suggests that girls tend to organise themselves into single-sex groups to provide a safer space for them to demonstrate their physical competences and performances (Green and Scraton 1998; Hills and Croston 2012; Scraton 1992; Wilkinson and Penney 2023a). Girls may also find themselves sidelined (e.g. occupying a peripheral space) by the domineering behaviour of boys, particularly in game situations (Hills and Croston 2012; Scraton 1992; 1993; Stride et al. 2022; Wilkinson and Penney 2023a). By comparison, boys tend to organise themselves into single-sex groups because of concerns about the impact of girls (e.g. their passivity in game situations) on their learning, behaviour, and/or enjoyment in PE (Scraton 1993; Wilkinson and Penney 2023a; Wright 1996; 1999). Hence, although respondents suggested that organising children into mixed-sex groups within mixed-sex PE classes may provide them with greater opportunities to interact and develop friendships with those of the opposite sex, this may be at the expense of their feelings of security, comfort, and/or levels of participation in certain situations.

Discussion

The complexities and nuances of single- and mixed-sex grouping practices in PE

The findings of this study affirm that mixed-sex grouping is the dominant approach in PE in Key Stage 1 and Key Stage 2 in schools in the North-East of England. That said, the findings also highlight the complex and varied nature of single- and mixed-sex grouping arrangements in PE in these schools, with multiple factors identified as shaping the approach employed in specific contexts and several schools using different combinations of approaches across different year groups and/or curriculum activities. In most cases, single- and/or mixed-sex grouping decisions were tied to pragmatic and contextual factors, including student numbers, class sizes, the planning and organisation of the school timetable, levels of staffing, and/or the availability of physical space. This research has therefore highlighted that many grouping decisions made by teachers in primary schools may be far from a matter of choice. Indeed, mixed-sex grouping was regarded as the only viable option in PE in most schools because there were insufficient student numbers, teachers, and/or class sizes to have single-sex groups. Similar findings were reported by Scraton (1993) and Wilkinson and Penney (2023a) and serve as an important reminder that grouping decisions in PE cannot be divorced from the broader school context (and the resources available) within which they are made. Nonetheless, in contrast to the findings of Scraton (1993) and Wilkinson and Penney (2023a), the dominant view of respondents in this study was that mixed-sex grouping was fundamental to the provision of inclusive and equitable learning experiences in PE. Relatedly, many respondents were committed to moving beyond traditional forms of PE (e.g. a team-sport oriented curriculum), and as such were structuring their curriculum around activities that challenged narrow and limited conceptions of gender, encouraged cooperative learning, and/or ensured parity of experience for boys and girls in PE. That said, it is important to recognise that broadening the curriculum without a concomitant shift in the ways in which mixed-sex PE classes are taught will not necessarily improve the learning opportunities and experiences of children. As Green and

Scraton (1998, 283) note, ‘mixed-sex grouping is most likely to work where skill imbalances are minimal, participation by boys and girls is on equal terms, and boys are not able or are prevented from side-lining girls’.

The limits of gender inclusive practices and the importance of student voice

It is important to recognise the shortcomings of schools using one grouping approach across the board in PE. Alongside this, we stress the need to acknowledge that much of our data points to teachers having to manage notable contextual constraints in grouping approaches. Nonetheless, when the approach taken by schools is limited to single-sex grouping, it may prevent trans and non-binary students from engaging in PE in meaningful and comfortable ways and lead some to disengage from or avoid PE entirely (Ferguson and Russell 2023; Kettley-Linsell 2022). A growing body of research has highlighted the challenges and contradictions faced by trans and non-binary students in single-sex PE, including being required to participate in curriculum activities that are incongruent with their gender identity and/or engaging in practices of gendered self-editing (e.g. misgendering themselves) to align with gendered curriculum structures and avoid surveillance and abuse in PE (Ferguson and Russell 2023; Kettley-Linsell 2022). Similarly, if only mixed-sex grouping is used, this may cause conflict for some Muslim girls (e.g. in relation to body modesty and privacy) and restrict their participation in PE (Dagkas, Benn, and Jawad 2011; Wilkinson and Penney 2023a). Prior research has drawn attention to the ways in which the religiosity of Muslim girls increases with age and becomes more obvious in secondary schools (Dagkas, Benn, and Jawad 2011). Nonetheless, in their study of Muslim girls attending one of four primary schools in England, Dagkas, Benn, and Jawad (2011) reported a ‘few cases’ where the religious identity of Muslim girls was a significant influence on their participation in PE. This was particularly so in relation to swimming, with a small number of parents insisting on single-sex grouping to allow their daughter to participate in these classes (Dagkas, Benn, and Jawad 2011).

Hence, we reaffirm that ‘no one arrangement will be appropriate in every case, consistently offer the best prospects of advancing gender equity and inclusion, nor necessarily suit all students’ needs and interests in PE’ (Wilkinson and Penney 2023a; 2023c). Instead, teachers should consider more nuanced, situation-specific policies and practices that are responsive to the diverse needs of different groups of children, including, but not limited to, those of different cultural and ethnic groups and those with gender diverse identities (Wilkinson and Penney 2023a; 2023c). As previously emphasised in PE research, there needs to be a recognition that children are positioned at the intersections of gender, religion, culture (and other identity markers) and policy and practice needs to take this into account (Flintoff, Fitzgerald, and Scraton 2008; Stride et al. 2022; Wilkinson and Penney 2023a). With others (e.g. Hills and Croston 2012; Walseth, Engebretsen, and Elvebakk 2018; Williams, Bedward, and Woodhouse 2000), we advocate for teachers to engage with children to ensure their voices are at the fore of curriculum planning and grouping decisions in PE. This would enable teachers to become more aware of individual children’s backgrounds, wants, and preferences to reduce potential conflicts and ensure that policies and practices take account of children’s diverse learning needs in PE. It would also enhance prospects that the activities offered to children in the PE curriculum connect with their interests and involvement in physical activity outside of school, which can lead to more meaningful learning experiences in PE (Hills and Croston 2012; O’Sullivan, Bush, and Gehring 2002; Walseth, Engebretsen, and Elvebakk 2018).

Conclusion

This research has generated a snapshot of single- and mixed-sex grouping practices in primary PE that has previously been absent from the literature. While the data set is acknowledged as limited to schools in the North-East of England, it raises several important questions that require further investigation both nationally and internationally. Further research is needed to understand the

ways in which single- and mixed-sex grouping arrangements are variously enacted, perceived, and experienced in PE in primary schools, including the subtle and less formalised approaches that arise within these arrangements. We particularly highlight a need for researchers and teachers to engage with the potentially diverse perspectives of children to enhance understanding of the ways in which their gender intersects with other aspects of their identity to influence their experiences of single- and/or mixed-sex grouping in PE, and to work towards greater equity and inclusion in PE. It is also important to note that findings of this study are in stark contrast to those reported in PE in secondary schools in England, where single-sex grouping is the most common grouping practice (Wilkinson and Penney 2023a). Accordingly, we suggest that there is an urgent need for longitudinal studies to investigate the implications and long-term impact that moving away from mixed-sex grouping in primary PE to single-sex grouping in secondary PE may have for students' educational experiences and outcomes, including their learning, motivation, and self-confidence in PE.

Finally, we return to a reflective standpoint in relation to how the language used by researchers, including ourselves, prospectively contributes to, or in contrast, may serve to challenge the dominance of discourses in PE that are associated with longstanding inequity. Hence, we advocate for future research focusing on *gender grouping practices in PE* to foreground that language and explore ways in which doing so may help moves away from binary discourses and practices.

Notes

1. In England, children aged between 4 and 11 attend a 'primary' school encompassing Key Stage 1 (aged 5–7/ Years 1–2) and Key Stage 2 (aged 7–11/Years 3–6). The education system in England includes a wide variety of schools that cater for primary-aged children, including infant (aged 4–7), junior (aged 8–13), first (aged 4–9), primary (aged 4–11), middle (aged 9–13), and all-through schools (aged 3–19). Children aged between 11 and 16 attend a secondary school encompassing Key Stage 3 (aged 11–13/Years 7–9) and Key Stage 4 (aged 13–15/ Years 10–11).
2. A social transition involves a child presenting to other people as a member of the opposite biological sex to which they were born (e.g., by wearing clothes, adopting a new name, and using pronouns of the opposite biological sex) (Durwood, McLaughlin, and Olson 2017).
3. Most school-aged children in England attend a mainstream school, including those with special educational needs (SEN). Some children who have challenges or disabilities that cannot be accommodated within mainstream schools may attend a special school.
4. Mixed-sex grouping was identified as the preferred approach, with 29.9% of respondents expressing this preference. Comparatively, 0.4% of respondents expressed a preference for single-sex grouping, 2.8% for a combination of single- and mixed-sex grouping, and 66.9% expressed no preference.
5. Gender diversity is an umbrella term that is used to describe gender identities that demonstrate a diversity of expression beyond the binary framework of male and female (A Gender Agenda 2023).

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