

RESEARCH ARTICLE

Primary School Breaktime and Girl's Physical Activity: 3 Case Studies

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Abstract

Many girls in the UK do not achieve recommended daily physical activity (PA) levels. Primary schools are required to provide 30 minutes of PA a day for pupils, with breaktimes providing an opportunity for children to be physically active. This study explored girls breaktime experiences to uncover participation barriers faced, with recommendations for schools to address these made, to improve the likelihood of children reaching recommended daily PA levels. Data was collected from three schools using focus groups consisting of 4/5 girls aged 9-11 years (Key Stage 2). A mind-map activity was also utilised. A thematic analysis was carried out, using transcripts and maps, to identify the barriers which made PA less appealing and more difficult for girls. The most common themes contributing to girls being less physically active than boys were: male domination of space and equipment, a lack of adult input, and little variety of play. Boys engaged in more PA due to dominating equipment sharing, creating an environment where girls felt unsafe and became tired due to a resultant lack of game variety. Based on these findings, breaktime PA should be promoted through: additional equipment provision, increased skilled adult involvement, and the creation of alternative PA options away from the male-dominated environment.

Key words: Gender, Physical Activity, Barriers, Primary School, Breaktime.

1. Introduction

There is a historical gender gap in the UK in terms of PA, with girls still 4% less likely to reach their daily recommended PA level (Sport England, 2021). The Youth Sport Trust (YST, 2021) found that this gap is widening, with girls more likely than boys to drop out of sport during the transition from primary to secondary school. Guidelines for young people aged 5-18 years state that able-bodied children should engage in at least 60 minutes of PA per day (20 minutes for those with a disability), with 30 minutes of that provided in school (UK Government, 2016) schools

recognised as key settings for PA promotion (Biddle et al, 1998). The UK continues to face cross cutting issues which impact children's ability to thrive and live healthily. The rise in processed food and drink consumption and limited energy expenditure due to a rise in sedentary play options (Fox, 2004) have contributed to childhood obesity, posing a threat to public health and placing strain on agencies. In the wake of COVID-19 and an economic downturn, more than one million children experienced destitution in 2022, with families unable to afford to adequately feed and clothe their children, or to keep them warm. Such

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material hardship is no longer a rarity, the destitution rate more than doubling in the last five years as a result of benefit cuts and cost of living pressures, impacting the health of children, with rises in undernourishment, mental illness, social isolation, school absences and poor classroom behaviour (Butler, 2023).

2. Literature Review

Authors, for example Zask et al (2001) have long cited playtimes/breaktimes as a key opportunity to encourage participation in PA. Ridgers et al (2006) found boys engage in more breaktime PA than girls, suggesting that schools which claim to reach the 30 minutes daily PA target may be doing so on average, not across boys and girls. Janssen et al (2015) found that children who take part in breaktime PA from an early age are more likely to continue being physically active outside of school and into later life, breaktimes having the potential to act as a foundation for long-lasting healthy lifestyles (Subremaniam and Silverman, 2007). However various studies identify the barriers girls face which mean this potential is not realised.

Peer group breaktime has been well researched, though not always with a focus on PA. Observations, interviews and surveys have been carried out to understand the differences between boys and girls play, Lever (1975) suggesting that the games children play contribute to preserving traditional sex-role divisions in society, boys being equipped with social skills necessary to occupational careers and girls with social skills better suited to domestic ones. Kraft (1989) noted that girls scored highest for sedentary play and socialising with friends. Boys were found to play in larger groups and to engage in rule-based, competitive games, whereas girls preferred fantasy games or those with turn-taking, reducing competitiveness. It was noted that some girls would play 'male games;' however, to become regular participants, girls were required to be highly skilled and would be given the stigmatising label of tomboy. Pawlowski et al (2014) saw boys also citing barriers, such as conflict with male peers and poor weather, but noted a wider and more impactful set of barriers for girls to contend with, including a lack of space and equipment and boys domination of space which forced them to become used to playing games in smaller spaces and being excluded from PA by boys.

Baranowski et al (1993) found that encouraging children to play outdoors increased activity levels but that both boys and girls PA levels were impacted by

factors such as equipment, facilities, environment, influence from role-models and the presence of an audience. Stratton (2000) called for schools to be promoted as key settings for PA promotion, with PE and playtimes utilised to ensure children reach recommended PA levels. He found that children are most likely to participate in PA during unstructured play, with the addition of playground markings useful in promoting unstructured PA to encourage Moderate to Vigorous Physical Activities (MVPA). However, the novelty of the markings wore off and PA lessened, indicating that more significant interventions must be found. Blatchford et al (2003) observed that girls activities are more varied, with football (soccer) and other ball games dominating playground activities for boys. Boys tend to have larger friendship groups which leads to them dominating playground space, with enough numbers to organise team games such as football (Ridgers et al 2006) which creates gender segregation in terms of activities and space. However, those authors found that when data was collected towards the end of the school year, girls had become more involved in ball games, showing that confidence can improve over time. Dudley et al (2018) found that there is a strong relationship between achieving daily PA targets and positive physical, social and mental health, however insufficient allocation of school resources and limited teacher training, meant not all children were adequately active, girls spending half the time boys did engaging in MVPA. They also highlighted that gendered uniforms create barriers for girls, suggesting schools should rethink uniform policies.

As we will see later, the responses of our participants chime with the conclusions of Loucaides et al (2009) who found that by allocating children space in the playground, with a wide range of activities and positive encouragement, all children became more physically active, these interventions being low cost and easy to implement. A study by Janssen et al (2015) also recommended multicomponent intervention to have wide appeal, programmes that change the playground environment and different activities in different areas, with football being assigned a designated area. They noted that interventions carry a novelty effect with children's PA fluctuating, therefore, activities should be changed monthly to avoid demotivation. Additionally, for programmes to succeed, there needs to be structure through adult supervision and encouragement.

Via staff motivation and enthusiasm, children can create positive associations with breaktimes, where valuable exercise habits can be created from a young age, reducing the risk of health conditions in adult life. However, although Physical Education (PE) courses which carry Qualified Teacher Status (QTS) in primary school PE are now available in the UK, historically primary teachers do not have to have QTS in PE, meaning schools do not have a qualified PE specialist to deliver lessons and a subsequent lack of expertise and confidence impacts on the ability to promote PA outside of the curriculum. It has been reported that around a third of primary school teachers lack confidence when it comes to teaching PE, over a quarter saying they did not feel adequately qualified to teach the subject, more than half expressing the need for more professional development in the subject (beds.ac.uk). 88% of teachers recognised the importance of PE yet more than 40% of newly qualified teachers begin their careers with an average of just six hours initial training in PE (YST, 2018). 40% of teachers said their students don't enjoy PE, with one in three children across the UK leaving primary school with negative feelings about being physically active (beds.ac.uk). Participants believed 40% of children they teach leave primary school without the foundation movement skills to engage in PA, with 20% of pupils overweight or obese when they start primary school, rising to 33% when they leave (RCPCH 2020).

Legislation still allows for unqualified teachers to lead PE lessons, for support staff to lead PE lessons under supervision and for unqualified teachers and support staff to lead after-school clubs (K Leaders, 2023). The YST (2018) has set continuing professional development goals to help staff improve children's formative experiences of PE and school sport, calling for all teachers to be professionally developed to help children become physically literate by the time they leave primary school. PE is a compulsory subject under the National Curriculum at all Key Stages, with guidance on what should be taught at each point. Local authority maintained schools are required to follow the National Curriculum but academies and free schools are not, although they are required to provide a broad and balanced curriculum that promotes the physical development of pupils (Roberts et al, 2023).

The push to increase PA levels must be set against not just a relative undervaluing of PE in terms of teacher training/specialisation at primary level, but also a reduction in outdoor play space. From October

2012, regulations required that suitable outdoor space must be provided to enable pupils to play outside, a decision made to stop further local authority sale of school land which had previously left many schools with little or no suitable outdoor space. In 2023, the Government published a new sport strategy which included the aim to have one million more children in England classed as being active by 2030 (UK Government, 2023a). Early that year, the Government published an updated School Sport and Activity Action Plan (UK Government, 2023b) which emphasises the importance of physical activity for children, including the Chief Medical Officer's (CMO's) recommendation for MVPA levels. The plan also set out the importance of equal access to sport for boys and girls. The lack of parity in terms of access was highlighted in a letter sent to the Prime Minister by the England women's football squad after their UEFA European Championship win in 2022 in which they called for the government to commit to allowing all girls to play football in schools, after the Department for Education refused to enshrine this provision. Additionally, it asked government to ensure all girls have two hours a week of PE lessons and invest in and support female PE teachers as well as providing resources for girls' football sessions (Elgot, 2023). At the time, only 67% of all schools and 41 per cent of secondary schools offered football equally to girls in PE lessons and only 46% provided the same extracurricular opportunities as boys. In the following year, the government allocated £622 million in funding over two academic years to promote PA in schools and also issued strengthened guidance on how to spend this, including new guidelines on equal access. Schools that successfully deliver equal opportunities will be awarded the School Games Mark, which assesses parity of provision in PE and extracurricular sport (Football Association, 2023). Whilst most of the focus was on PE, with the mention of extra-curricular activities, it is possible that this will have a wider cultural impact on schools, in terms of how they value and deliver PA, having a knock-on positive impact in terms of breaktime PA.

Sport England published research (2023) about the activity levels of 5–16-year-olds in England. It estimates that 47% of children and young people (3.4 million) were considered active, meaning less than half achieve the CMO's target, with 30% averaging less than 30 of the required minutes per day. As in previous years, the survey found boys were more likely to be active than girls. Outside of the school

setting, Slep and Warburton (1992) pointed out the importance of children understanding the benefits of PA and enjoying participation in terms of creating positive attitudes to foster lifelong voluntary activity, Kraft (1989) reporting that compulsion can create negative associations. Linked to this, in terms of role modelling, Mackintosh (2021) challenges claims that major and mega events such as the Olympics boost grassroots participation via athlete inspiration. While elite competitors may act as role models for small numbers of people already engaged in sport, watching elite sport can often deter participation, particularly amongst women, due to a lack of relatability, that is they do not foster positive associations with PA. Using people closer to home, establishing initiatives where participants find it easier to identify with those leading activities, perhaps teachers or parents volunteering in schools, could provide a more viable, sustainable approach to inspiring and supporting young people to increase their PA, with local events, such as Park Run being better tools for increasing and sustaining participation, with echoes here of Bourdieu's ideas around habitus (1984).

3. Methodology

The field researcher was working part time for a company which provided activities to help schools close their gender PA gaps. Three schools in the north of England were recruited via the company. The schools were made aware of the aims of the study and participant selection was carried out by them, the headteacher acting in loco parentis in terms of ethics approval (Flewitt, 2005). Ethics approval was obtained via the University's usual system. The children were all within the final years of primary school (Years 5/6), the YST (2021) having found that girls are most likely to drop out of sport and PA during the transition from primary to secondary school.

The main data collection method was focus-groups, chosen for their effectiveness amongst children due to the interactive nature of conversations which also provide peer support and facilitate memory recall (Darbyshire et al, 2005). The conversations amongst participants allowed detail of, and views on, breaktime PA to be discovered (Cyr, 2015) with the field researcher's experience of working with children key to conducting them (Garbarino and Stott, 1992). Ice breaker activities were used so participants became comfortable in the focus group setting.

Willenberg (2010) used children's drawings to understand how playtime is experienced by them,

allowing participants to communicate how they construct and explain their worlds through hands on tasks, providing the opportunity to outline barriers and provide insight to develop strategies for assisting girls to participate in more PA. Gibson (2012) offers that movement, play and fun activities keep children engaged and improve response quality, participants being able to show the researcher the playground to evoke memories and provide additional data. Drawing on this approach, alongside focus-groups, the field researcher asked the girls to create a mind-map as a group, providing a non-verbal way for the young people to express their feelings in a playful, inclusive fashion, about what they saw as barriers to their breaktime PA (Einarsdottir, 2007). A thematic analysis of the focus group transcripts and maps was carried out (Harper and Thompson, 2011) which highlighted the issues discussed below.

4. Results and Discussion

Although intertwined, the issues identified by participants as contributing to their lower levels of engagement with PA will be addressed in the following sections: male domination of space and equipment; lack of adult input; little variety of play.

5. Male Domination of Space and Equipment

Football dominated playground activities, boys attempting to demonstrate their dominance through competition, conflict and rough play (Pielichaty, 2015) playing in large groups which also allows them to dominate playground space (Ridgers et al, 2006). For girls to be accepted into football play, they have to be highly skilled to prove themselves to boys as worthy of participation (Blatchford et al, 2003), highlighting that girls wishing to play football, are often rejected by boys. These factors impacted on participants, as evidenced by a selection of the thoughts they shared, below:

Emmy: They wouldn't pass to me because they said I wouldn't score.

Amy: They only pass to other boys; they don't pass to us.

Taylor: Boys on my team would tackle me and take it off me.

Lexi: I play basketball, but they just take the ball off you; I never get the chance to shoot.

Chloe: I should probably just dress up as a boy and then they'll pass to me.'

Ultimately, as per Lever (1975) the competitive, aggressive nature of the game deterred girls from joining in:

Chloe: Boys don't think football is our game to play.

Annalise: It just makes me not want to play; it's not fun anymore.

Many girls also spoke about being scared to join in ball games with the boys, because of the rough nature of play. Within all focus groups, girls commented on their worries of being hurt:

Taylor: Boys kick too hard, so I avoid ball games.

Ally: I've seen boys get injuries and I don't want to play because I'll get hurt

Lexi: Sometimes you can get hit so that's why you don't go in the MUGA (multi use games area)

Kraft (1989) found that structured breaktimes and rule-bound games prevented this fear, if there was teacher supervision and motivation of children, which will be discussed later. Some of the girls touched on this, suggesting structure and support would reduce risk:

Georgia: We need more rules when we play football.

Bridie: I'd like there to be more teachers to organise games and play with us.

It can be hard to find a balance, as some girls enjoy the freedom of breaktimes and reshaping them could create negative associations with PA, turning it into a chore (Kraft, 1989). However, if children are allocated space within the playground, and can carry out the activities they wish to, Loucaides et al (2009) found that children would become more physically active, due to increased opportunity created by having scaffolding in place.

It was apparent that the girls wanted a greater variety of games to choose from and we will examine their ideas around what they'd like to play. Here, however we focus on the linked but general barrier of equipment, the lack of which is highlighted by Dudley (2018) as a significant factor in contributing to low PA levels:

Georgia: I'd like to play volleyball.

Lexi: That would be fun.

Georgia: Yes, like with volleyball we'd need actual volleyballs to play, but we don't have any,

all we have are the ones in the PE cupboard, but we aren't allowed to use them so all we use are footballs and basketballs.

Some equipment, as we can see above, was owned by the school but not made available, in addition to often being broken or in use by others. The field researcher asked a series of questions about equipment and sharing, and example responses were:

Annalise: We have equipment but it's barely ever out.....The lunch ladies try to get it out but it's never really out.

Maisie: The little kids come out first, so they get first dibs on the equipment and when we get out it's all gone.

Pawlowski et al (2014) found that girls tend to use more equipment and space, allowing for a larger variety of activities. All participants in one focus group agreed that during the Covid-19 pandemic, equipment distribution was better, due to it being batched for reasons of reducing transmission:

Annalise: When it was COVID, we had separate equipment boxes for everyone, and I think that worked better.

Emmy: It worked better because there was equipment to play with when we finished our lunch.

Due to the pandemic and social distancing rules, classes had their own 'bubbles' to avoid cross-contamination. This meant equipment was shared equally and wasn't taken before classes of older pupils had finished lunch. The school decided to continue with separate equipment boxes, post pandemic but other problems arose:

Ally: I wish there was more balls; there's only 6 footballs and they always get bust.

Maddie: We could probably set up our own football game if there was more balls.

Chloe: When the little kids play with the equipment it's all gone, so we sometimes have to play games without equipment, like tig and hide and seek.

Maddie: The younger ones aren't meant to take it all, but they do.

This highlights that even though there are separate boxes for each class, there are still issues with inadequate levels of equipment, damage and staff monitoring of distribution.

6. Lack of Adult Input

Sleap and Warburton (1992) reported that the use of rules and adult supervision were effective in creating an inclusive environment for PA. Participants offered ideas, in the light of an absence of adult input, to increase engagement:

Maisie: I could start a girls' club at breaktime where we could come in here and do exercises and stuff like that.

Emmy: Yes, a girls' club

Maisie: Lunges and that kind of thing

Emmy: Boys have enough things to do, so it can be girls only.

Pawlowski et al (2014) highlighted that the masculine environment of the available outdoor space had forced girls to play in small, discrete areas of the playground, so the suggestion of a girls-only club in a separate space can be seen in the context of this, participants also flagging up male attitudes to girl's play and a potential counter to this:

Annalise: Boys say we're girls, so we don't need to play.

Emmy: We should get together and tell them what we want to play.

This demonstrates the need for staff to work with boys to raise their awareness of the importance of PA for all, and to encourage them to respond more positively when girls express an interest in taking part. This would increase the confidence of girls and encourage more gender positive behaviours amongst male pupils. Participant Emmy identified that strategies to increase participation would need to be implemented from a young age to build confidence, echoing the findings of Blatchford et al (2003), with girls needing time to become comfortable in male dominated environments, extra support from adults being required to allow girls to create positive associations with their PA participation. However, as reported earlier, there are issues in terms of staff training and confidence, including that of non-teaching staff such as playground supervisors.

7. Little Variety of Play

Janssen et al (2015) found that girls responded positively to having a range of activities available, as this fulfils the desire to try new games, whilst also taking away the fear element of mainstay games such as football. As previously mentioned, girls-only activities were discussed, as participants believed

these would allow them more opportunities to do PA. When asked what they would change about breaktimes, a participant said:

Maddie: ...not as many football games at once, and having different sports like basketball, tag rugby and dodgeball.

The girls all wanted to play games which had not been available to them. When asked what they did during school breaktimes, or would like to, responses included:

Maisie: I usually walk around the playground or sit down, it's always either dodgeball or football in the ball court; there's no new games.

Taylor: Boys target us in dodgeball so I don't like going in, but I would like the chance to go in and play a different game.

Emmy: I want to play different games, it's always the same games every day.

Dodgeball, like football, fell into the category of games which held little or no interest. However, it is perhaps not the games per se which fail to engage but rather the aggressive nature of the unsupervised play, which results in girls feeling targeted by boys, and fearful of entering certain spaces.

The playgrounds at the schools were small, meaning pupils across all Key Stages shared space, with ball court usage on a rota. The girls discussed reshaping the playground configuration:

Annalise: It would be more fair if rather than split by Key Stage, we were split by gender and girls got a turn in the ball court on their own

Emmy: It'd be nice if the girls that are good at playing football, like Annalise, taught the younger ones, so they will be good when they go in the ball court when they're older.

The suggestion of using older girls as 'coaches' fits with ideas around role models identified by Vescio et al (2005) girls tending to look up to a relatable person they see as a friend, as opposed to elite athletes. Some participants also expressed a wish for more opportunities for girls to play separately from boys, discussing ways in which the playground could be split to allow activities to be girls-only and equitable within same sex games:

Annalise: I do like football, but I'd only play if there was two ball courts, one for girls and one for boys.

Maisie: It should be girls and boys split in the playground or maybe split by people who are good and bad.

When probed as to whether spaces should be ring fenced by sex, Maisie responded 'Yes, that would be really good.' However, not all participants were in favour of this, the final point, again, indicating the need not just for variation, but for adult input:

Lexi: No I like it mixed.

Georgia: I still want to play with the boys, I just want them to pass to me.

8. Recommendations and Future Research

Issues hindering participation created by dominant male behaviour were identified many years ago by Lever (1975) yet remain unresolved. Based on the findings of the research outlined above, breaktime PA could be boosted and sustained via: the provision of additional equipment, increased adult input, and the creation of alternative PA options including in spaces away from male-dominated environments. As well as feeling as if they weren't permitted to play, the girls also reported that they feared playing with boys, as they were worried about being hurt. Having more structure and space during breaktimes would, alongside adult input, help to create a safer environment for females. The girls also offered that they would develop greater confidence from a young age through the use of peer lead activities. This would also provide role modelling and promote the idea that activities such as football are appropriate for girls, as well as boys. Pawlowski et al (2014) found that the girls became used to boys dominating the playground, therefore being excluded from games was the norm. To address this, staff could pro-actively encourage girls to become involved and also 'coach' boys into more co-operative play which would lead to the normalisation of mixed gender participation in the playground. There may be the need for some investment to develop staff, or volunteers, and to 'train' role model pupils but this would be short term and small scale so feasible within existing budgets.

Having girls-only sessions could encourage more girls to enter spaces ordinarily considered off limits, although potentially difficult to facilitate in schools with limited space. Such activities would demonstrate to female pupils a determination by adults to facilitate their PA but should sit alongside adult led work demonstrating concepts such as sharing, encouragement and shared ownership of space to

male pupils. To counter the perception of girls only sessions appearing to segregate pupils, staff and young girls should see these activities as about increasing confidence and creating positive associations with PA, which mean girls are more likely to go on to participate in mixed gender PA and environments, with staff support or breaktime PA activators gradually reducing their input but maintaining a reassuring and motivating presence.

Calls for more, and functioning, equipment were clear and consistent. Although there are some purchase and storage issues, the equipment sought is relatively cheap and small in size. Mixed gender activities making fullest and fair use of existing equipment should also be part of the package of measures which would help schools to close the gender gap in terms of meeting PA targets.

Looking to future studies, the schools were based in the same county so a wider catchment area would add to the strength of research. The participants were all white, chosen by the head teacher, and not representative of wider demographics. The schools were state funded, so it would be helpful to investigate schools funded via other methods to test whether issues faced by pupils are similar, and/or whether initiatives are in place to counter any gaps in PA. Blatchford et al (2003) suggest that research in all-female schools, allowing for the examination of playground activities without the presence of male competition for space, resources, and factoring out issues around higher skill levels in terms of sports such as football, would be beneficial. Such research could also examine other variables, such as intra gender co-operation and confidence and how these might impact on engagement. Furthermore, a deeper investigation into familial engagement with PA outside of the school environment, which could involve the same or additional methods such as interviews, might help to illuminate the playground PA behaviours of girls.

9. References

1. Baranowski, T., Perry, C.L., Parcel, G.S. (2002). How Individuals, Environments, and Health Behavior Interact. In: Glanz, K., Rimer, B.K., Lewis, F.M., editors. Health Behavior and Health Education: Theory, Research, and Practice. 3rd Edition. San Francisco, p. 165-184.
2. Beds.ac.uk. (2015). www.beds.ac.uk/news/2015/june/supporting-primary-teachers-to-promote-physical-literacy-during-pe-lessons.
3. Biddle, S., Sallis, J., Cavill, N. (1998). Young and

- Active? Young People and Health Enhancing Physical Activity: Evidence and Implications. London: Health Education Authority
4. Blatchford, P., Baines, E., Pellegrini, A. (2003). The Social Context of School Playground Games: Sex and Ethnic Differences, and Changes Over Time After Entry to Junior School. *British Journal of Developmental Psychology* 21:481-505
 5. Bourdieu, P. (1984). *Distinction: a social critique of the judgement of taste*. Routledge.
 6. Butler, P. (2023). www.theguardian.com/society/2023/oct/24/more-than-1-million-uk-children-experienced-destitution-last-year-study-finds
 7. Cyr, J. (2015). The Pitfalls and Promise of Focus Groups as a Data Collection Method. *Sociological Methods and Research* 45:231-259
 8. Darbyshire, P., MacDougall, C., Schiller, W. (2005). Multiple Methods in Qualitative Research with Children: More Insight or Just More? *Qualitative Research* 5:417-436
 9. Dudley, D., Cotton, W., Peralta, L., Winslade, M. (2018). Playground Activities and Gender Variation in Objectively Measured Physical Activity Intensity in Australian Primary School Children: A repeated Measures Study. *BMC Public Health* 18:1101-1110
 10. Einarsdottir, J. (2007). Research With Children: Methodological and Ethical Challenges. *European Early Childhood Education Research Journal* 15:197-211
 11. Elgot, J. (2022). www.theguardian.com/football/2022/aug/03/lionesses-urge-next-pm-to-allow-all-girls-to-play-football-in-schools
 12. Flewitt, R., (2005). Conducting Research with Young Children: Some Ethical Considerations. *Early Child Development and Care* 175:553-565
 13. Football Association (2023) www.thefa.com/news/2023/mar/07/england-womens-lionesses-euro-legacy-achieved-20230803
 14. Fox, K. (2004). Childhood Obesity and the Role of Physical Activity. *The Journal of Royal Society for the Promotion of Health* 124:24-39
 15. Garbarino, J., Stott, F. (1989). *What Children Can Tell Us: Eliciting, Interpreting and Evaluating Information from Children*. London: Jossey-Bass
 16. Gibson, J. (2012). Interviews and Focus Groups With Children: Methods That Match Children's Developing Competencies. *Journal of Family Theory and Review* 4:148-159
 17. Harper, D., Thompson, A. (2011). *Qualitative Research Methods in Mental Health and Psychotherapy: A Guide for Students and Practitioners*. Chichester. Wiley-Blackwell
 18. Janssen, M., Twisk, J., Toussaint, H., Mechelen, W., Verhagen, E. (2015). Effectiveness of the PLAYgrounds Programme on PA Levels During Recess in 6-year-old to 12-year-old Children. *British Journal of Sports Medicine* 49:259-264
 19. K Leaders (2003). schoolleaders.thekeysupport.com
 20. Kraft, R. (1989). Children at Play: Behaviour of Children at Recess. *Journal of Physical Education, Recreation and Dance* 60:21-26
 21. Lever, J. (1975). Sex Differences in the Games Children Play. *Social Problems* 23:478-487
 22. Loucaides, C., Jago, R., Charalambous, I. (2009). Promoting Physical Activity During School Break Times: Piloting a Simple, Low Cost Intervention. *Preventative Medicine* 48:332-334
 23. Mackintosh, D. (2021). <https://www.mmu.ac.uk/sport-and-exercise-sciences/news/story/?id=14307>
 24. Pawlowski, S., Tjornhoj-Thomsen, T., Schipperijn, J., Troelsen, J. (2014). Barriers to Recess Physical Activity: A Gender Specific Qualitative Focus Group Exploration. *BMC Public Health* 14:639-649
 25. Pielichaty, H. (2015). 'It's Like Equality Now; It's Not as if it's the Old Days': An Investigation into Gender Identity Development and Football Participation of Adolescent Girls. *Soccer & Society* 16:493-507
 26. Roberts, N., Long, R. and Danechi, S. (2023). <https://commonslibrary.parliament.uk/research-briefings/sn06836/>
 27. Royal College of Paediatrics and Child Health (2020) *State of Child Health*. London: RCPCH.
 28. Ridgers, N., Stratton, G., Fairclough, S. (2006). Physical Activity Levels of Children During School Playtime. *Sports Medicine* 36:359-371
 29. Sleaf, M., Warburton, P. (1992). Physical Activity Levels of 5-11 Year Old Children in England as Determined by Continuous Observation. *Research Quarterly for Exercise and Sport* 63:238-245
 30. Sport England (2023) www.sportengland.org/research-and-data/data/active-lives/active-lives-data-tables?section=children_and_young_people_surveys
 31. Sport England (2021). *Active Lives Children and Young People Survey: sportengland-production-files.s3.eu-west-2.amazonaws.com/s3fs-public/2021-01/Active%20Lives%20Children%20Survey%20Academic%20Year%2019-20%20report.pdf?VersionId=4Ti_0V0m9sYy5HwQjSiJN7Xj.VInpjV6*
 32. Stratton, G. (2000). Promoting Children's Physical Activity in Primary School: An Intervention Study Using Playground Markings. *Ergonomics* 43:1538-1546
 33. Subramaniam, R. and Silverman, S. (2007) Middle school students' attitudes toward physical education. *Teaching and Teacher Education* 23(5):602-611. DOI:10.1016/j.tate.2007.02.003
 34. UK Government. (2016). *Childhood Obesity: A plan for Action*. assets.publishing.service.gov.uk/

- government/uploads/system/uploads/attachment_data/file/546588/Childhood_obesity_2016__2__acc.pdf
35. UK Government (2023a). www.gov.uk/government/publications/get-active-a-strategy-for-the-future-of-sport-and-physical-activity/get-active-a-strategy-for-the-future-of-sport-and-physical-activity
 36. UK Government (2023b). www.gov.uk/government/publications/school-sport-and-activity-action-plan
 37. Vescio, J., Wilde, K., Crosswhite, J. (2005). Profiling Sport Role Models to Enhance Initiatives for Adolescent Girls in Physical Education and Sport. *European Physical Education Review* 11:153-170
 38. Willenberg, L., Ashbolt, R., Holland, D., Gibbs, L., MacDougall, C., Garrard, J., Green, J., Waters, E. (2010). Increasing School Playground Physical Activity: A Mixed Methods Study Combining Environmental Measures and Children's Perspectives. *Journal of Science and Medicine in Sport* 13:210-216
 39. YST (2021). www.youthsporttrust.org/news-insight/news/three-year-trend-of-girls-reporting-same-barriers-to-physical-activity-in-schools
 40. YST (2018). www.youthsporttrust.org/news/teachers-need-more-support-nurture-love-pe-and-school-sport
 41. Zask, A., Van Beurden, E., Barnett, L., Brooks, L., Dietrich, U. (2001). Active School Playground – Myth or Reality? Results of the “Move it Groove it” Project. *Preventative Medicine* 33:402-408