The Case for Play in Schools: A review of the literature

Commissioned by Outdoor Play and Learning (OPAL) CIC
Researched and written by Ana Ardelean, Kate Smith and Wendy Russell

Edited by Wendy Russell
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This review was commissioned by Outdoor Play and Learning (OPAL) CIC, a mentoring project that helps schools 'create happier playtimes, better play spaces and enable staff to support outdoor learning'.[1] It forms part of their Sport England funded project to increase their capacity and services supporting play in schools. The three broad aims of this project are to enable more schools to improve playtimes, to make the support and resources for this better and to support schools for longer. We were given a very broad brief to produce a desktop evaluation report on the academic evidence available that can inform OPAL's approach to play in schools.

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Outdoor Play and Learning (OPAL) CIC, Bristol, England.

1 https://outdoorplayandlearning.org.uk/

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1. Introduction

Summary points

• UK primary school children participate in up to 600 playtimes a year, accounting for 20-22% of the school day; supervision of these times costs £750m a year: given this, it is worth considering how this time and money is spent. Playtimes in English primary schools have reduced by 45 minutes a week since 1995, both to spend more time on academic teaching because of the shift towards standards and competitive league tables and because of perceived increases in poor behaviour at playtimes.

• There is little agreement about the value and function of playtimes amongst school staff and policy makers.

• This report is structured using a framework of three interrelated forms of value for playtimes: intrinsic (children's enjoyment), instrumental (play's value for things other than play itself) and institutional (the value of playtimes to the school and its stakeholders).

• All three forms of value are important, but if intrinsic value is low, the other two will be as well.

• This requires paying attention to children's enjoyment of playtime through the three interdependent aspects of sufficient time, space and permission to play.

UK primary school children can participate in up to 600 playtimes a year (Ridgers *et al*., 2006). School playtimes account for between 20-22% of the school day and the cost of supervising this is £750 million a year.[2] It makes sense then to consider how this time and money can be best spent in order to support children's education, health, wellbeing and development.

There have been substantial changes to education, schools and children's lives over recent decades, yet school playtimes remain relatively unexamined by policy makers and education professionals (Baines and Blatchford, 2019; Mroz and Woolner, 2015). The current English School Inspection Handbook (Ofsted, 2019), despite aiming towards supporting a broader curriculum, mentions playtime only once, as an opportunity to observe specific elements of the new inspection framework, namely personal development, behaviour and attitudes. However, despite the lack of policy guidance, playtimes 'can have serious implications for the judgments made [by Ofsted] about the quality of education provided by a school' (Mroz and Woolner, 2015, p. 3).

1.1 Changes in education and the school day

The continuing shift since the 1980s towards standards and competitive league tables alongside a stronger explicit instrumental and economic purpose for education (Williams-Brown and Jopling, 2020) has placed pressure on schools to teach to the test, despite recognition from Ofsted of the importance of a broad curriculum (Pratt and Atkinson, 2020). Baines and Blatchford (2019) found that break times in English primary schools had reduced by 45 minutes a week since their first study in 1995, suggesting two key reasons. The first is to make more time available to meet the requirements of the national curriculum, despite evidence suggesting that such a move is counterproductive (Baines and Blatchford, 2019; Pellegrini and Bohn, 2005; Ramstetter *et al*., 2010).

The second reason is to minimise incidents of poor behaviour at lunchtimes. We address this in more detail in the body of this report, but it is worth stating at the outset two responses to this which are drawn from the evidence. The first is that the assumption of violence in children's rough and tumble play may be a misreading of the complexities of children's play (Beresin, 2010) (see section 5.1 for more detail). The second is that where informed interventions have been made to improve playgrounds and playtimes, schools report significantly fewer incidents needing adult intervention and much better settling into class after the break (Armitage, 2009; Bundy *et al*., 2009; James, 2012; Lester *et al*., 2011) (see section 7).

Teaching staff often comment on how good playtimes help children to return to the classroom ready to learn, and also how issues at playtimes can spill over into the classroom, sometimes with teachers having to spend class time resolving issues (Follett, 2017; Lester *et al*., 2011). The following example is one illustration:

2 https://outdoorplayandlearning.org.uk/opal-wins-funding-from-sport-england-and-the-national-lottery/

> Sometimes there is an improvement [in behaviour] if they have enjoyed and been fully engaged in their outdoor play. However, if there has been any unhappiness outside this then has a negative impact on their mood/behaviour when they enter the classroom (Prisk and Cusworth, 2018, p. 17).

This implies that it is worth schools considering how to make playtimes more engaging and enjoyable for children.

1.2 The value of playtime: framing the review

Playtime in this report refers to the times during the school day which offer children a break from structured teaching and classroom activities, and which 'offer unstructured physical activity and play' (Murray and Ramstetter, 2013, p. 183).

How 'play' can be defined is a matter of dispute for play scholars (Sutton-Smith, 1997). The UK playwork sector, which works with school-age children to support their play, is guided by a set of principles that define play as 'a process that is freely chosen, personally directed and intrinsically motivated' (Playwork Principles Scrutiny Group, 2005). However, although primary school children are relatively free from the direct and indirect controls of the classroom at playtimes, they are still subject to significant surveillance and control (Rönnlund, 2015; Thomson, 2005, 2007, 2014) (see section 6). At the same time, children's free choice is never absolute as play is a matter of compromise and negotiation with other children as well as with material objects, landscapes and cultural expectations; in addition, power structures that exist outside of play are both recreated and resisted in play (Henricks, 2008).

Baines and Blatchford (2019, p.15) say that 'there is little agreement about the value and function of breaktimes amongst school staff and policy makers and they are often taken for granted'. Across the three points of their research (1995, 2006, 2017), changes were bigger between 1995 and the two later dates, and the main value had shifted from a break from the classroom (1995) to physical exercise and socialising with friends (2006 and 2017).

There is a tension in debates about how to value children's play, or more specifically, how to value play in certain contexts such as school playgrounds. The way that adults express the value of playtimes is often in terms of what they offer for something other than play, whereas for children, play is just something they generally enjoy for its own sake. In order to navigate this tension, we have used a framework for thinking about value drawn from the cultural sector (Holden, 2006) and applied elsewhere to play provision (Beunderman, 2010). The model suggests three interrelated kinds of value. Intrinsic value refers to children's enjoyment of play for its own sake and is more likely to be seen in the literature exploring children's own experiences of playtimes and cultures of play (see section 4). Instrumental value attaches a value for something other than play, and in the case of schools, this tends to be how playtimes can support children's broad education and development. The third form of value, institutional value, relates to what playtimes offer for the school and its wider stakeholders. These three forms of value are interrelated, but as Beunderman (2010, p. 76) states 'without the creation of intrinsic benefits, the other two values will be moot'. In other words, if playtimes and playgrounds do not work for children, they will not engage in playing and the instrumental and institutional benefits will not accrue. This suggests that for all three forms of value to be realised, schools need to pay attention to children's enjoyment of playtimes and therefore to the conditions that support play. These conditions are often grouped in three interrelated aspects of time, space and permission (Follett, 2017; Russell, 2018).

- **Time:** Schools in England can determine for themselves how long break and lunchtimes are. As has been stated, this time has reduced by 45 minutes a week since 1995 (Baines and Blatchford, 2019). In addition, playtimes can be withheld as a punishment for poor behaviour, even though it may be the very thing children need to help them settle in the classroom (McNamara, 2013; Mulryan-Kyne, 2014; Pellegrini and Bohn, 2005). Playtimes need to be long enough to allow children to establish and develop their play. Time also refers to children having access to outdoor play throughout the seasons, whatever the weather (Follett, 2017; Prisk and Cusworth, 2018).

- **Space:** The physical spatial arrangements of school grounds, the atmosphere at playtime and the school's culture are dynamically interconnected and interdependent. Together they produce traditions and habits of playground behaviour which can privilege some forms of playing over others (see sections 4, 5 and 6). Sensitively rethinking spatial arrangements can substantially improve playtimes for children and therefore the benefits that accrue (see section 7); however, changes need to take into account the meanings that children attach to certain areas and places in ways that may not be immediately apparent to adults.

- **Permission:** A sense of permission to play arises both from the general culture of the school and the

playground and also, specifically, from the behaviour of supervisory staff and the habits and routines that develop over time (see section 6). Holding these habits up to scrutiny can often reveal unnecessary restrictions and help a shift in attitudes and behaviour. Baines and Blatchford (2019) suggest that, given the importance of the quality of playtimes for children and schools, the supervision of playtimes should be given as much attention as the supervision of the classroom.

1.3 The shape of this report

Section 2 gives a description of how we went about carrying out the review: our methodology. In section 3, we review what the literature says about how adults value playtimes in schools. Following this, section 4 looks at research into children's own experiences of playtimes including how they express their own cultures of play in school playgrounds. Section 5 then presents the literature on concerns about playtimes, including issues such as bullying, fighting, unwanted behaviour; exclusion and (in)equality; and risk. Section 6 considers issues regarding supervision of playtimes and adult control of time and space. We then move on to look at the research into specific interventions in school playgrounds and playtimes, with key themes being the intention to increase physical activity, the introduction of 'loose parts' into playgrounds, and the move towards natural playgrounds and the greening of school grounds. Section 8 offers a discussion and some conclusions regarding our findings overall from the review of the literature, with further information on resources and support in section 9.

In presenting findings, there is always the problem of how to arrange them. Research studies do not stick neatly to one topic, and many of the issues and attempts at solutions are interrelated. Given this, there will be some overlap between sections.

A note on terms used: we have drawn on the literature from a range of countries that have different approaches to staff supervision. In some countries, teachers and/or teaching assistants supervise playtimes, whereas in others, at lunchtime especially, midday supervisory staff are employed. To avoid confusion, we have used the terms 'supervisory staff' or 'playground staff' throughout, but in some quotations, there will be references to specific staff. Also, we have used the term 'playtime' to refer to what elsewhere may be called recess or break time, with a focus on outdoor play.

2. Methodology

Summary points

• This review is a synthesis of and commentary on the state of play in primary school playgrounds, reviewing academic research and 'grey' literature.

• We used a semi-systematic, integrative, narrative and creative approach, searching and selecting sources, synthesising them into conceptual themes and creating an original commentary on current research and opinion.

• We asked four questions:

  – What are the benefits to the whole school community of children having time, space, permission to play?

  – What concerns are there about playtimes?

  – How are playtimes valued by school staff and by children?

  – What interventions have been tried to improve playtimes?

This literature review aims to give an overall synthesis of and commentary on outdoor playtimes in primary school playgrounds. Our brief was necessarily very broad. It encompassed academic research across several disciplines (including psychology, physiology, education, sociology, geography and folklore) and across a range of methodologies and methods (including quantitative, mixed methods, qualitative and post-qualitative), as well as the 'grey' literature produced by advocates, practitioners and infrastructure organisations, which is not peer reviewed or published in the traditional places for academic writing. Knowledge is not a neutral affair: each source we reviewed seeks to make a case for something or other, whether that is to show the effectiveness of an intervention, to advocate for the importance of children's play in school, to consider children's own play experiences, or to comment on research methods used. Such arguments also tell us much about how adults value playtimes and playgrounds as an integral aspect of school life and beyond, and what they think their purpose might be.

Given this, we have used a semi-systematic, integrative, narrative and creative approach to the review (Montuori, 2005; Toracco, 2016), searching and selecting sources, synthesising them into conceptual themes and creating an original commentary on current research and opinion on children's play in primary schools. We do not seek merely to reproduce a summary of each publication, but to produce something new to add to a growing body of knowledge regarding children's playtimes in primary schools. Whilst we have sought to draw from a significant number of sources, such an approach does not claim to be exhaustive. In purely pragmatic terms, the field is too big to include everything. Rather, 'it is a map of the terrain, not the terrain itself' (Montuori, 2005, p. 376). All three members of the research team are embedded in the field, we are a part of the community that we are reviewing, and two members of the team work as mentors for the OPAL Primary Programme. Whilst it is inevitable (and therefore ethical to acknowledge) that we will bring in our own perspectives, we see this review as a moment in an ongoing dialogue with other members of this community of practice.

Research questions were identified to help focus the search. These were:

- What are the benefits to the whole school community of children having time, space, permission to play?
- What concerns are there about playtimes?
- How are playtimes valued by school staff and by children?
- What interventions have been tried to improve playtimes?

2.1 Search strategies

We wanted to include as broad a range of sources as possible. Early parameters were agreed as English language sources from countries that are comparable to the UK, published since 1990, with a focus on contemporary work.

Two university academic search engines were used, which cover a very wide range of databases including Worldcat, EBSCO, MEDLINE, SpringerLink, Wiley, Taylor and Francis, Emerald, Oxford Journals, Sage

Journals, ScienceDirect, Directory of Open Access Journals, Directory of Open Access Books, ERIC, JSTOR, Digital Education Resource Archive, PLoS, Project Muse, PsychARTICLES and PsychINFO, PubMed and more. In addition, we also used Google Scholar and general web searches to locate 'grey' literature published outside of academic and traditional publishing sources, including, for example, NGOs, charities, professional organisations and individuals publishing their own materials online.

The search terms we chose were designed to be used in a responsive, generative and creative manner. Initial searches used the terms 'primary schools' and 'play' (for key words and words in abstract), yielding over 200,000 responses. Searches were then narrowed by including other search terms such as 'playground' (for one search engine, this yielded 244 responses) and 'recess'. Sources were scanned, with summaries of those thought to be relevant recorded on a shared spreadsheet and the texts stored in a shared folder. The team met regularly to discuss progress and to adapt search and reading strategies. Themes began to emerge and these were shared out for team members both to narrow and broaden searches still further (for example, including the search terms 'loose parts', 'physical activity', 'health' 'risk' and so on), with an overview maintained by the final editor of the review. Full reading of sources was shared out across initial themes, with readers also following up potentially relevant sources from references lists.

2.2 Organising the material

Following the sharing out of initial themes, members of the team read sources in full, producing syntheses. From here began an iterative, creative and emergent process of sharing thoughts and considering how to organise the material. However the material is organised, there will be overlaps. For example, much of the research into the introduction of loose parts into school playgrounds highlighted the importance of supervisors having an understanding of a playwork approach, overlapping with themes of supervision and risk as well as critiquing adult assumptions drawing on more geographically-oriented research into children's own cultures and actual use of playgrounds.

As we became more familiar with the body of literature, we agreed that it would be useful to focus on the idea of value attached to playtimes, and this then informed the structure of the report. Team members drafted sections on specific themes, and these were then integrated into the full report by the overall editor.

3. Adult expressions of the value of playtimes

Summary points

• Adult expressions of value tend to focus on instrumental and institutional value.

• Play's interrelated benefits are dynamically related to the spatial and social conditions of children's lives.

• Health and wellbeing benefits:
  – physical activity, greater energy, disease prevention;
  – stress reduction, pleasure;
  – social connectedness and a sense of belonging, friendships;
  – emotion regulation, healthy stress response systems;
  – reduction in onset of myopia, increased Vitamin D levels, healthy development of vestibular and proprioception systems.

• Cognitive and academic benefits:
  – increased attention on return to classroom, especially for children with ADHD;
  – better classroom and on-task behaviour;
  – more concentration, less fidgeting.

• Social and emotional benefits:
  – better negotiation and problem-solving skills;
  – learning how to deal with conflicts, falling out and teasing;
  – learning how to compromise;
  – dealing with fear and risk;
  – building friendships.

• Physical benefits:
  – playtimes can contribute up to 40% of recommended daily moderate to vigorous physical activity (MVPA) for boys and 30% for girls;
  – children are often more active at playtimes than in PE lessons and structured activities;
  – children engage in a wider range of often unpredictable and non-routine movements, developing balance.

This section focuses on adult expressions of value, which, while adults do recognise play's intrinsic value, tend to be largely instrumental and institutional.

In their survey of schools, Baines and Blatchford (2019) found that primary school staff mostly valued break times for the opportunity they offer for physical exercise, letting off steam and socialising with friends. These forms of value, however, were from a multiple-choice list, and the literature suggests a far wider range of benefits for playtimes, summarised briefly here:

Health and wellbeing benefits: the health benefits of play generally are well documented and are dynamically related to the spatial and social conditions of children's lives. If conditions are right, children will play and benefits will accrue from physical activity, social connectedness and a sense of belonging. These include reducing stress, generating pleasure and a sense of wellbeing, increasing energy and preventing disease; playing with other children also helps to develop friendships, emotion regulation, and healthy responses to stress (Lester and Russell, 2008, 2010; McNamara *et al*., 2015). Playing outdoors can also reduce the onset of myopia (short-sightedness) (Rose *et al*., 2008), increase levels of Vitamin D (McCurdy *et al*., 2010), and support healthy development of the vestibular and proprioceptive systems (Hanscom, 2016).

Cognitive and academic benefits: unstructured playtimes facilitate school learning (All Party Parliamentary Group on a Fit and Healthy Childhood, 2015; Centers for Disease Control and Prevention, 2010; Murray and Ramstetter, 2013; Pellegrini and Bohn, 2005). Pellegrini and Bohn (2005) suggest that the break offered by playtime is more than mere rest from structured learning but is necessary for children to be able to pay attention. They posit a cognitive

immaturity hypothesis: children's immaturity means that they tend to overestimate their cognitive and social capabilities, and this is adaptive in that it allows them to persevere at difficult cognitive tasks. However, they are unable to sustain this for lengthy periods and quickly become susceptible to cognitive interference. Unstructured play offers the opportunity not only for a break but also to renew the sense of potency and competence (after all, anything can be true in play), enabling an effective return to structured cognitive tasks.

Their research also shows that opportunities to be physically active outdoors improves attention after breaks and is especially effective for children with ADHD. Prolonged time sitting and concentrating is counterproductive (Pellegrini and Bohn, 2005), as is withdrawing playtime as a punishment (McNamara, 2013; Mulryan-Kyne, 2014; Pellegrini and Bohn, 2005).

Similarly, an analysis of studies carried out by the Centers for Disease Control and Prevention (2010) generally found a positive (or occasionally zero, but not negative) correlation between access to recess (and particularly physical activity) and improved classroom and on-task behaviour, concentration and less fidgeting.

Social and emotional benefits: Children's academic development is closely linked to the consistency and quality of their social interactions (Mulryan-Kune, 2014). Many advocates stress the benefits of playtimes for social and emotional wellbeing and development, including learning how to negotiate and problem solve; to deal with conflicts, falling out and teasing; and learn how to compromise; to deal with fear and take risks, and to develop friendships (eg American Academy of Pediatrics, 2013; Baines and Blatchford, 2011; Goudreault and Guimont, 2017; Jarrett *et al*., 2009).

Yet, although Baines and Blatchford (2019) found that children overwhelmingly like playtimes, this is not the case for all children as some are excluded or bullied, or spatial and cultural arrangements prevent particular children from engaging in the forms of play that bring such benefits (McNamara *et al*., 2015; Mulryan-Kyne, 2014). These are reviewed in more detail in section 5. Often school responses to these issues will be to limit playtime or to impose strict controls on behaviour, both of these being counter-productive (McNamara, 2013; Mulryan-Kyne, 2014). Investing in co-creating the conditions that support playing can help realise the many benefits. These conditions cover time, space and permission to play and these are discussed further in section 7.

Physical benefits: Playtimes offer an opportunity for children to engage in physical activity, addressing concerns about children's sedentary lifestyles and rising obesity (Alexander *et al*., 2014; Mills and Burnett, 2017; Ridgers *et al*., 2007, 2010). Indeed, unstructured play where children interact with peers can be a highly effective context for physical activity (Beresin 2012; Burdette and Whittaker, 2005; Pellegrini and Smith, 1998). Playtimes contribute to up to 40% of the recommended MVPA guidelines of 60 minutes a day for boys and 30% for girls (Ridgers *et al*., 2006). The unstructured nature of playtimes can mean that children are more active than they are in physical education classes, although this varies according to what playgrounds have on offer (Beresin, 2012) and the time available for play (Ridgers *et al*., 2010). Generally speaking, in their play, children move in all sorts of ways, not just taking steps (measured with pedometers) or moving at speed (measured with accelerometers). Movements are often unpredictable and non-routine, forming a kind of responsive choreography with playmates and the environment (Beresin, 2012). Children's propensity for deliberately creating uncertainty in their play, for example by hanging upside down or spinning round and round, also helps to develop the vestibular system, balance and proprioception (Hewes, 2014).

As well as these largely instrumental values attached to playtime, there are other ways of valuing it. Instrumental perspectives largely impose a rational value onto playing in order to explain something that appears purposeless, frivolous and nonsensical. Yet the pleasure of playing is more than a mere luxury, and its benefits often accrue from those very characteristics that adults see as irrational and frivolous (Sutton-Smith, 1997; 2017). Together with other affective aspects of playing, it helps contribute to the development of resilient capacities such as emotion regulation, stress response systems, attachment and an openness to learning (Lester and Russell, 2008, 2010).

4. Children's experiences of playtime and their playground cultures

Summary points

4.1 Children's experiences of playtimes

• Creative research with children highlights a diversity of experiences and can offer solutions to playtime problems.

• Most children enjoy playtimes, but a significant minority do not.

• Playtimes are associated with freedom and being able to do what they want.

• Children wanted playtimes to be longer, with more things to do and with fewer rules.

• Children felt that playtimes should not be taken away as a punishment.

• Having someone to play with is important. However, some children sometimes prefer to play alone.

• Opportunities to play are shaped by the physical, social and organisational characteristics of school grounds:

  – big open spaces generally suit boys playing football; many children prefer smaller in-between spaces that are often out-of-bounds and poorly maintained;

  – these conditions operate in multiple, inter-related and intersectional ways across gender, poverty, disability, race and ethnicity.

4.2 Children's cultures in the playground

• Playtimes are sites where children's own cultures of play are practised, reproduced, negotiated and regulated, seen in playground songs, games, rituals, naming of specific places in the playground and myriad other practices.

• Contemporary creative research methods allow for attention to micro-detail, describing sophisticated skills children show in navigating crowded play-grounds, responding in multiple ways to play signals in order to keep play going.

• Children's traditional games are not dying out, they are adapted and updated to include contemporary culture and whatever material and social resources are to hand.

• Children's cultures both validate and mock adult culture, including school rules.

• Children's rhymes, jokes and wordplay allow children to engage in taboo language and practices within the relative safety of knowing it is 'just play', allowing children to explore fears, desires and fantasies.

• Offline and online worlds are blended, with gaming references appearing in playground games.

• Mundane elements of the playground are absorbed into children's games, attaching significance to them often over generations, in ways that adults may not realise.

Having considered the literature on how adults value playtimes, this section looks at children's own experiences of playtimes and their cultures of play, focusing therefore on play's intrinsic value and on how it emerges from the specific material and social spatial configurations of each playground in relation with children's own cultures, the school culture and broader influences.

This offers a very different perspective on playtimes from an adult focus on instrumental value. Although definitions of play highlight key characteristics of pleasure, intrinsic motivation, self-organisation, unpredictability, emergence and lack of externally defined goals, stressing process over product (Alexander *et al*, 2014; Lester *et al*., 2011), these are often obscured by adults' desire to show causal effects between specific forms of play and more instrumental outcomes. This can have the effect of reducing play to a time and space-bound activity that can be provided, observed and measured (Massey, *et al*., 2018; McGall *et al*., 2009), with desired forms encouraged and more disorderly and nonsense aspects controlled (Hewes, 2014; Thomson, 2005, 2014). At the same time, much contemporary play scholarship suggests that 'free' play is a thing of

the past, that children no longer know how to play (Alexander *et al*., 2014; McNamara, 2013). This section challenges this perspective, showing how research into how children play reveals a picture of children as highly competent players, with a rich tradition of cultures of play, when the conditions to support play are right.

4.1 Children's experiences of playtimes

Studies consulting and co-researching with children on their experiences of playtime reveal some commonalities and also conflicting viewpoints, highlighting the diversity in experiences and preferences for children at playtime (Mroz and Woolner, 2015). Pearce and Bailey (2011) suggest that if we recognise that children are the experts of their own lives, then they could be considered as 'knowledge brokers' (Marsh, 2012), offering, through participatory and creative research methods, potential solutions for persistent playground problems. Examples include more things to do and a variety of spaces to do them in, and fewer rules (Bristow and Atkinson, 2020; Mroz and Woolner, 2020).

The majority of children enjoy playtimes (Mroz and Woolner, 2015; Mulryan-Kyne, 2014). Ndhlovu and Varea (2018, p. 498) note the exuberance with which the children emerged from the classrooms into a clearly different world of play. The energy shown by the children, the laughter, breaking into a run as soon as they enter the play area, all indicated how much children enjoyed recess.

Nonetheless, playtimes are not enjoyable for some children: 5% said they did not like playtimes in a survey by Baines and Blatchford (2019). This 5% is a significant figure, and for these children playtimes are problematic because they were bored, excluded, teased or bullied, there is too much social conflict, or there are too many rules and restrictions (Bristow and Atkinson, 2020; MacNamara, 2013). The material, ecological and contextual aspects of playgrounds that do or do not work for children are complex and multi-layered, and we consider these in more detail in sections 5 and 6.

Despite this significant minority, studies consistently show that playtime is valued by children and that the memories of playtime persist over many years (Fink and Ramstetter, 2018; Pearce and Bailey, 2011).

For some children, playtime is associated with freedom and autonomy:

> 'Because you get to be free and run around.'
>
> 'Me and my friends … talk about what we want and we can express ourselves.'
>
> 'Because everybody can play and we like taking breaks from the teacher.' (Fink and Ramstetter, 2018, p. 930).
>
> 'You feel like you're just a turtle in your shell [when in the classroom] but when you're outside you feel like you're out of your shell.' (Bristow and Atkinson, 2020, p. 123).

For other children, playtimes are not long enough and should have fewer rules (Baines and Blatchford, 2019; Bristow and Atkinson, 2020; Fink and Ramstetter, 2018). Thomson (2007, p. 494) lists a sample of rules children recounted to her:

> Don't play here, go over there; walk slowly, don't run; keep off the grass; no linking arms; don't play football; don't play by the bins; don't climb on the benches, don't walk on the lines; no splashing in the puddles; don't kick the stones; don't go in the off limits areas; don't call the builders Bob; don't climb on the railings, don't be cheeky to the supervisors; don't lie on the ground; don't put your clothes on the ground; if you don't play nicely you have to go in; don't scream; don't shout.

She also notes that the rules listed by the children were longer than the ones given by the school staff, presumably because they drew on their lived experience of what was acceptable or unacceptable behaviour.

Some children felt that taking playtimes away as a punishment was wrong:

> 'If it was up to me, I would let everybody go outside and find some other way to give consequences.'
>
> 'Even if they're being bad, maybe they need a chance to run around.' (Fink and Ramstetter, 2018, p. 930).

What is important for children at playtimes is having someone to play with (but also the possibility of being alone), how people treat each other, opportunities to play (physical and cultural affordances, resources, games), and a sense of fair play (Aminpour *et al*., 2020; Bristow and Atkinson, 2020; McNamara, 2013; McNamara *et al*., 2015; Pearce and Bailey, 2011). Lodewyk *et al*. (2020) found that enjoyment of playtime was closely linked to a sense of belonging, positive affect and levels of physical activity.

While some children reported feeling left out or lonely as a negative aspect of playtime (Bristow and Atkinson, 2020; Pearce and Bailey, 2011), others said that they enjoyed solitude and found it frustrating

that they were forced or expected to play with others (Pearce and Bailey, 2011; Calder *et al*., 2012). Opportunities to play are shaped by the physical, social and organisational characteristics of school grounds, which are often limited (Aminpour *et al*., 2020). Traditional playground spaces are very open, in order to facilitate supervision, generally suiting boys who enjoy playing football (Pearce and Bailey 2011). However, Aminpour *et al*. (2020) suggest that this big open space restricts play options for many children who appreciate smaller, in-between spaces offering different opportunities for self-directed play. Key physical characteristics of in-between spaces include enclosures, edges and natural settings, with key social characteristics centred on the children's needs to mitigate overcrowding and manage gender balance. These spaces are often classed as 'out-of-bounds' due to the perceived difficulty for adults supervising and may be dirty or not maintained, often having the effect of eliminating a variety of small spaces of value for children's play.

Distinct gender differences in play were noted (Hyndman and Chancellor, 2015; Pearce and Bailey, 2011; Lodewyk and McNamara, 2020; Mroz and Woolner, 2015, 2019), with gender segregation and stereotyping largely being taken for granted and often reproduced (Mayeza, 2017), although some research shows a more complex picture where both gender and sexuality boundaries were more fluid (Pawlowski *et al*., 2015; Renolds, 2005). Hyndman and Chancellor (2015) found that girls' favourite things about playtimes included both being active (playing tag games, walking, climbing, hiding) and creative (making things and using their imagination) and boys liked playing with the sports equipment.

The material, social and spatial configurations of playgrounds and playtimes do not only operate across gender lines, but in multiple, interrelated and intersectional ways (Kustatscher, 2016) across poverty (McNamara, 2013; McNamara *et al*., 2015; McNamara *et al*., 2017), disability (Hodge and Runswick-Cole, 2013; Woolley *et al*., 2006; Yantzi *et al*., 2010), race and ethnicity, including Gypsy Roma children (Bryan, 2018; Cudworth, 2015; Rosen, 2017). These issues are considered further in section 5.

4.2 Children's cultures in the playground

School playgrounds are 'sites where culture is practised, produced, reproduced, regulated and negotiated' (Marsh and Willett, 2010, p.3). The cultures of childhood are expressed through playground songs, games, rituals, naming of specific places in the playground and myriad other practices (Armitage, 2005; Beresin, 2014; Bishop and Curtis, 2001; Factor, 2004; Potter and Cowan, 2020; Marsh and Willett, 2010).

Contemporary folklore studies of children's play draw on different conceptual and methodological tools from the more instrumental approaches to play described in section 3. Many studies combine childlore, childhood studies, cultural studies, media studies and play theory (Marsh and Willet, 2010). Drawing on the great traditions of children's folklorists such as Alice Bertha Gomme, Dorothy Howard, Brian Sutton-Smith and Peter and Iona Opie, who documented thousands of songs, rhymes, rituals, games and other aspects of childlore (Bishop and Curtis, 2001; Marsh and Willett, 2010), contemporary researchers continue the tradition of close observation and also augment this with more creative and participatory methods such as mappings, drawings, photos and the use of new technologies to engage children on their own terms (Cowan, 2020; Grudgeon, 2014; Marsh and Willett, 2010; Potter and Cowan, 2020):

> In pursuit of both the mess and the mass of data needed, we, and the children, used a range of methods including iPads as filmmaking devices, chest-mounted GoPro cameras, voice recorders, binaural sound recording, field notes, drawn data and maps of playspaces (Potter and Cowan, 2020, p. 5).

Such methods allow for a focus on micro details, allowing researchers to notice children's attention to one another's play signals and their responsiveness to the ever-changing social context, recognising gaze, posture, manipulation of objects, facial expression and more as significant methods of communication, rich with meaning (Cowan, 2020).

Studies show how children's play in the school playground draws on a rich heritage of tradition passed on through generations: far from traditional games dying out, they can be seen in children's play today, but, as always, they are adapted and updated to include 'family practices, local folklore, school curricula, global media' as well as whatever is to hand in terms of the social and material resources in the playground (Potter and Cowan, 2020, p. 4). This can blend local and global, digital and 'real life', evolving over generations and geographies as children pass on a legacy of repeating 'motifs' (Beresin, 2014). These motifs absorb popular culture and current events, serving both to validate culture (both their own and broader adult cultures) but also to question, challenge, mock and satirise it (Marsh and Willett, 2010).

However, McKinty (2006) warns that adult incursions into children's self-organised play does constrain

children's ability to play these games. She highlights how rules imposed by supervisors in the name of safety create 'forbiddings' of games such as chase, marbles and handstands.

The assemblages that give rise to expressions of children's culture also include schools' rules of the playground, which can also be both validated and mocked. Thomson (2005) describes how children would remind each other of the rules and point out when they had been transgressed, sometimes threatening to tell, showing how such spatial strategies had become embedded in the culture of the space. But children would also break the rules, often in playful and creative ways:

> A sign of the children's resistance to the rule of 'keeping off the sports' field' was that they would take great delight in taunting the supervisors by jumping on and off the edge of the field, or walking with one foot on the grass and one foot on the tarmacadam. At other times, they would deliberately kick the ball or their shoes onto to the grass so that they could manufacture a reason to go on this forbidden territory (Thomson, 2005, p. 75-76).

The transgressive aspects of children's play can be seen most clearly through the lens of childlore, for example in rhymes, jokes and wordplay that enable children (or force others) to say rude words, or to giggle about bodily functions that they may or may not fully understand. The 'just playing' element frames the words and actions as 'not real', creating some level of permission whilst still relishing the taboo aspects that may elicit disapproval. Marsh and Willett (2010, p. 12) suggest such 'transgressive, phantasmagorical play is an important aspect of children's creative and imaginative practices and functions as a means of exploring fears, desires, fantasies and issues relating to agency.'

The ease with which children blend offline and online worlds disrupts the strict binary divide that fuels adult panics about children's digital lives: for children boundaries are fuzzy. Cultural references, practices and artefacts from online practices are brought into offline play and vice versa (Marsh, 2014), and digital devices are increasingly used as resources for offline play (Martin, 2017). Children's digital domain has become a more fluid part of their culture, fusing as it does globalised discourses with local and 'how the circulation of text and practices is shaped by patterns such as migration, changes in cultural industries and developments in relation to patterns of access to new technologies' (Marsh and Willett, 2010, p. 13).

One example is a game of 'Granny Wants a Hug' (Potter and Cowan, 2020). This is an adaptation of a classic chasing game often known as 'run-outs' (but with many other names and variations). 'Granny' pretends to fall asleep on a bench while the other children run and hide. She wakes up and a complex choreography ensues of children trying to reach 'base' (the bench) without being caught by Granny. Granny taunts players with chants such as 'Granny wants a hug' and the name of a player. Players closely read the space and Granny's attention, looking for moments where they can make a dash for base. Sometimes there is an impasse, where no-one moves for a while. In this particular documented game, one of the players would enact the 'Take the L' or 'Loser Dance' from Fortnite, an online video game popular at the time (and itself a melange of traditions and cultures). These moves, comprising making an L-shaped sign on the forehead with a hand whilst alternately kicking the legs out to the side, constituted shared contemporary cultural references signalling either provocation to be chased or taunting for evading being caught. The actions illustrate the layering of different cultural references and adaptations of traditions (Potter and Cowan, 2020).

Such dynamic, responsive, opportunistic and multi-layered actions illustrate the rich sophistication of how children engage in playground games. They help to keep the game going in a sometimes crowded and noisy playground, showing constant negotiations, navigations, adaptations, call and response. Cowan (2020) suggests that this multi-modal use of bodies, sounds, cultural references, symbols, signs (including variants of signalling 'truce'), landscape features and material objects offer a very different analysis of what is sometimes just referred to as physical play, and particularly the forms of physical play that make some playground supervisors anxious.

What the research studies discussed here offer is a different way of seeing the sophistication and complexity of children's play performances, with implications for spatial arrangements, playground rules and supervision. An over-simplistic view that links forms of play unproblematically with skills development risks glossing over the nuances and importance of children's cultures in the playground (Cowan, 2020; Lester and Russell 2014). In particular, adults' perceptions of what might or might not constitute acceptable play is likely to affect children's perceptions, enjoyment and permission to play (Bristow and Atkinson, 2020; Thomson, 2014).

In addition, the micro-details of children's relationships with the physical features of the playground

can sometimes pass adults by. Children's experiences of space are radically different from adults'. Special spaces emerge through use over time, sometimes in places and ways not evident to adults, and often named by the children. For example, Thomson (2007) observes the ways in which everyday and apparently mundane aspects of the playground, such as bollards, bins, benches, walls, fences and so on, assume significance at playtime. Armitage's (2001, 2005) research in apparently barren school playgrounds reveals a rich cultural history of such special places, passed down through generations of children. One example is the 'long black pole', a drainpipe used in hiding and hunting games as a counting pole and home base. These are not planned play features, and may remain largely unnoticed by adults, but are appropriated by children and become woven into the culture of playtime to form what Factor (2004) names 'play-lines'. If they go unnoticed by adults, they may be unwittingly removed in the name of school grounds improvement.

Bishop and Curtis (2001, p. 183), drawing on their edited collection of studies of what children actually do in their self-organised play in primary school playgrounds, also note the richness and complexity of children's play and argue that 'adults concerned with children's play need to develop a greater awareness of what is happening in contemporary children's play … and to update these understandings on a regular basis … [A]dults can foster play by providing quality time, conducive space and low-key supervision for children's self-directed activities.'

5. Concerns about playtimes

Summary points

• Although most children enjoy playtimes, there are several recurring issues that arise, including poor outside space; conflict, aggression and bullying; exclusion and inequality; issues with supervision.

5.1 Social conflict, aggression and bullying

• Poor behaviour was listed as the main concern of staff and pupils.

• The term bullying is used loosely to cover a range of conflictual behaviour.

• Most in-school bullying and aggression tends to happen during playtimes.

• Aggression and bullying often have a racist, sexist, homophobic/biphobic/transphobic or disablist element, making particular groups more prone to victimisation.

• Interventions to improve playtimes and playgrounds are more effective than reducing or eliminating playtimes.

• Supervising staff can mistake rough and tumble play for aggression or be concerned that play fighting will turn into real fighting.

• Research shows that rough and tumble play does not increase aggression and requires sophisticated skills of social signalling, reciprocity and coping with uncertainty.

• Rough and tumble play helps build friendships, emotion regulation, impulse control, respect, and social skills.

5.2 Exclusion and inequalities

• Children's lives are situated in complex social structures that are expressed through play in ways that can exclude or victimise children or perpetuate stereotypes.

• Categories such as gender, ethnicity, disability, class, sexual orientation, etc., are useful but can obscure intersectionality and contradictory experiences of exclusion and the dynamics of power.

• Exclusionary practices are embedded in the design and organisation of playgrounds and playtimes, perpetuating stereotypical behaviour and responses to it.

5.3 Risk

• Supervising staff express anxiety about injury in school playgrounds, often leading to rules and interventions that restrict play, the use of equipment and access to some areas of the playground.

• Although staff may recognise the value of risk-taking, there is a tension between this and their moral and legal duty to keep children safe.

• Children can make judgements regarding risk, although this is affected by a range of interrelated factors.

• Much of the official guidance on risk in children's play advocates a balanced approach between the need to keep children safe, their desire for risk-taking and the benefits.

• Children seek out risk for the thrill of feeling the fear and overcoming it.

• The health benefits of risk-taking in play are greater than those associated with avoiding risk.

• Benefits include increase in physical activity, development of social competence, creativity and resilience as well as improved risk competence and perception.

• Despite this evidence, it is difficult for staff to feel comfortable with children's risk-taking. 'Broadly speaking, due to its sometimes chaotic, purposeless and occasionally risky nature, adults perceive children's breaktime supervision as a time of anxiety and stress. The playground seems a mass of confusion, noise and movement.' (Thomson, 2014, p.6).

Whilst this observation may not reflect how all school staff feel about supervising playtimes, it does speak to the apparent gap between what is known about the nature of children's play, the value of playtimes as outlined in sections 3 and 4 and what happens in the playground. Mulryan-Kyne (2014) summarises adults' perceptions of problems in the playground as poor behaviour, aggression and bullying; 'low level and poor-quality play', or aimless activity; domination of space by boys; overcrowding;

poor outside space; issues with supervision and lack of training for supervisory staff. Thomson (2014) identifies additional adult concerns as not playing 'nicely', risky play and getting dirty. Often, a school policy response to perceived problems at playtimes is to reduce the time available or to curtail specific activities that give rise to staff anxiety, yet this can often be counterproductive (McNamara, 2013; Mulryan-Kyne, 2014).

This section considers what the literature says, from the perspectives of both school staff and children, about three areas – social conflict, inequality and risk – although there is significant overlap between these categories and they are often interrelated.

5.1 Social conflict, aggression and bullying

Poor social behaviour of a few pupils is listed as the main concern of both staff and pupils in several studies (Baines and Blatchford, 2019; McNamara, 2013; Mulryan-Kyne, 2014), closely followed, in research with pupils, by a lack of things to do, with the suggestion that these two issues may well be linked (Baines and Blatchford, 2019). Whilst many pupils said that their favourite aspect of playtime was being with friends, 'bullying/fighting' also featured as what some liked least, although the researchers note that the term 'bullying' was used quite loosely to denote a range of social conflicts (McNamara, 2013).

The pervasiveness and loose use of the term 'bullying' in children's responses in such research highlights how embedded the concept is in educational contexts and discourses following heightened awareness and multiple policy interventions over the last 30 years. English schools are required to have anti-bullying strategies and these are in themselves performative; that is, the continued use of terms such as 'bully', 'victim' and 'bystander' affect understandings, feelings and actions as well as identities (Chandler, 2018; Ringrose and Renold, 2010).

The UK Anti-Bullying Alliance defines bullying as 'the repetitive, intentional hurting of one person or group by another person or group, where the relationship involves an imbalance of power. It can happen face to face or online'.[3] It can be physical, verbal, emotional, sexual, or indirect. Although such a definition is useful, it too is performative: it affects perceptions, the way staff and children talk about bullying, the way they behave and the way they perceive themselves, setting up a binary distinction between bully and victim that is gendered, racialised and encultured (Ringrose and Renold, 2010).

Most in-school bullying tends to happen during playtimes and in the playground (McNamara *et al*., 2017; Vaillaincourt *et al*., 2010). It often has a racist, sexist, homophobic/biphobic/transphobic or disablist element, making particular groups more prone to victimisation (Brown 2018), although this plays out in complex intersectional ways that act to perpetuate gendered, racialised and classed normative ideals and to punish those who deviate from such norms (Ringrose and Renold, 2010).

Despite concerns about bullying being on the rise, it has actually reduced in schools in England between 1990-2009, possibly as a result of anti-bullying initiatives (Rigby and Smith, 2011), although it may have increased outside of school (Brown, 2018). Interventions aimed at increasing prosocial behaviour tend to be more effective than zero tolerance or punitive initiatives, although they require more investment (Brown, 2018). Similarly, interventions to improve playgrounds and playtimes are more effective than reducing or eliminating playtimes. For example, a two-year Random Controlled Trial found that introducing opportunities for risk and challenge, loose parts and reducing rules led to children being happier and with fewer reports of victimisation and bullying; although there were increased reports of pushing and shoving, this was seen as an integral part of playing (Farmer *et al*., 2017a). An action research project found that when changes are made to ensure that children are supported to be actively engaged at playtimes and to connect with their peers, they were able to form playful, prosocial relationships (McNamara, 2015).

Sometimes, school staff concerns about fighting and aggression in the playground may stem from a misunderstanding of rough and tumble play. Play fighting is a very physical play form that comprises wrestling, running and chasing, kicking, grappling, falling over, often landing on top of each other (Carraro *et al*., 2014; Smith *et al*., 2004). It can look like real fighting, but is differentiated by its play tenor: players tend to play rough and tumble with their friends, they exhibit positive affect (generally they smile and laugh, displaying 'play faces') and they self-handicap, for example through pulling punches and kicks, meaning there is little or no physical contact. They also show reciprocity, taking turns at dominating, and remain together after the play fighting is over (Smith *et al*., 2004). Play fighting can account for up to 10% of playtime, while time spent in real fighting appears to be less than 1% (Schåfer and Smith, 1996; Smith *et al*., 2004). Supervisory staff are concerned that play fighting can easily turn into real fighting, believing this to be the case 29% of the time (Schåfer and Smith, 1996). Yet the research shows that it is much less often than this: 1% of play

3 https://www.anti-bullyingalliance.org.uk/tools-information/all-about-bullying/what-bullying

fights can turn into real fights if there are honest mistakes or suspicion of cheating; however, this rises significantly to 26% for children who have difficulty reading play signals and also who are unpopular (Schåfer and Smith, 1996). Overall, engaging in rough and tumble play does not increase aggression (Brussoni *et al*., 2015; Bundy *et al*., 2009).

This type of play requires children to be skilled in social signalling, to alternate and change roles and to cope with uncertainty. These successful social conversations and interactions help build friendships and also help develop emotion regulation, impulse control, learning about respect, fairness and socially accepted behaviour, as well as managing one's own strength to avoid causing injury to others (Carraro and Gobbi, 2018; Pellis and Pellis, 2013). These benefits were more clearly seen for boys and popular children, less so for others.

5.2 Exclusion and inequalities

Children in the playground are diverse: their lives are situated in complex social structures that are expressed through play (Baines and Blatchford, 2011). Sometimes these play expressions exclude or victimise specific children; sometimes they enact stereotypes in ways that perpetuate them. For example, Mayeza (2015) shows how children 'do' gender in the playground through a range of inclusion, exclusion and policing practices, including name calling and teasing, thereby reinforcing gender conformity and challenging 'gender-transgressive play' (Mayeza, 2015, 2017). Such conformist practices disturb the idea of 'free play' in the playground, although there were also plenty of examples of how both boys and girls resist the rigidity of gender boundaries, showing the complexities of 'doing' gender (Mayeza, 2015; Ringrose and Renold, 2016).

Children are often categorised into social stratifications such as gender, ethnicity, disability, class, sexual orientation and so on. Whilst these categories can be useful in highlighting structural aspects of inequalities, they also essentialise and fix children into boxes, obscuring the nuances of children's lived experiences and the complexities of intersectionality that produce multiple identities and sometimes contradictory experiences of exclusion and the dynamics of power (Kustatscher, 2016).

As described in section 5.1,being victimised and bullied is more prevalent among Black and minority ethnic children; disabled children and those with additional needs; poorer children and those on free school meals; LGBTQI children and those from non-nuclear families (Brown, 2018). Differences across such lines are often presented in essentialised ways that perpetuate stereotypical norms (Ringrose and Renold, 2016). Being called a bully or a victim enacts 'normative ideals of masculinity and femininity, which are themselves raced, classed and encultured' (Ringrose and Renold, 2010, p. 574). Hence boys' exclusionary or bullying behaviour is presented as physical and visible, whereas girls tend to be more indirect, employing tactics such as social isolation and rumour-mongering (Fink *et al*., 2017; Lodewyk *et al*., 2020; Mayeza, 2015). Ringrose and Renold (2016) suggest such accepted discourses create 'normative cruelties' that are so pervasive they are taken for granted; indeed, transgressions of these normative forms of cruelty are heavily sanctioned by peers (one example was of boys hitting girls: 'real' boys don't hit girls, and only those too scared to hit boys would do so).

Rosen (2017) shows how the playing at monsters of four boys is interpreted differently by both staff and other children: the two white boys were praised by staff for their imagination and for using monster personae for ludic purposes in terms of resolving disputes or keeping the play going. However, for the two Black boys, their monster personae seemed to stick to them beyond ludic performances and they were seen as aggressive or scary. Similarly, Bryan (2018, p. 673) shows how the play of Black boys is constructed as 'criminal, dangerous, and monstrous' and subject to higher levels of surveillance, containment and sanctions than other children. Such actions, when repeated, position Black boys as problems and can feed into the higher incidents of exclusion and disaffection that build over time and form what is termed the school to prison pipeline.

Exclusionary practices are also embedded in the design and organisation of school playgrounds and playtimes. A lack of thought and attention to the design of the playground can produce spaces that exclude some children:

> Children's play can, in some contexts, be taken for granted and this can lead to the marginalisation of some groups of children. Lack of understanding, and adult assumptions and attitudes about children's needs, may lead to unintended exclusionary practices in the sharing and use of play spaces (Ndhlovu and Varea 2018, p. 494-495).

In many school playgrounds, the main open space is dominated by boys playing football, which is a major signifier of masculinity for boys (Mayeza, 2015; Ndhlovu and Varea, 2018; Paechter and Clark, 2007). When these games dominate, girls and non-footballing

boys are pushed to the sidelines; however, when open spaces are available, girls do engage in physical games (Paechter and Clark, 2007).

Such busy wide-open spaces do not work for all children, and some prefer spaces 'in-between' the formal recognised play areas, particularly solitary or small groups. However, these spaces are often out of bounds, dirty and not maintained: while they hold great value for children, they do not for adults (Aminpour, 2020). Supervision of in-between spaces can also be an issue which may affect children who prefer to play in green settings, where foliage and planting may cause visual obstruction; yet these green spaces are valued by many children and additionally reported by parents to positively affect mental health and consequent functionality of children with ADHD (Bell and Dyment, 2008). Calder *et al*.(2012) point out that play is not always social, particularly for children on the autistic spectrum, who spend longer in parallel play and solitary behaviour, and so need spaces that can support this.

Dudley *et al*. (2018) discuss cultural and environment factors which, along with playground social dynamics, may influence the likelihood of girls' participation in physical activity during playtimes. For example, school uniform gender differences can hamper physical activity.

School routines can also act unintentionally to exclude some children. For example, if care routines or physiotherapy for disabled children are carried out at the beginning of playtimes, often by the time the children join their friends, games have started and it is more difficult to join in (Woolley *et al*., 2006). Another example is of supervising staff stepping in to stop forms of play they perceive as too risky, something that happens more frequently for disabled children (Spencer *et al*., 2016).

5.3 Risk

School staff express anxiety about injury in school playgrounds. This typically leads to measures being taken to reduce the potential for any danger, such as: stopping certain activities, removing or restricting play equipment considered dangerous, reducing numbers of children on the playground, intervening to discuss the situation with children emphasising consequences of their actions, reducing playtimes and implementing rules designed to restrict children's use of school playgrounds (Brussoni *et al*., 2015; Bundy *et al*., 2009; Lester *et al*., 2011; van Rooijen and Newstead, 2017).

Although staff may recognise the value of allowing children to explore and take risks, they often find it difficult to watch children engaging in risk, feeling the need to protect: 'Warning for accidents is like a second nature. I need to learn how to restrain myself. As I often experience that it is not necessary' (van Dijk-Wesselius *et al*., 2020, p. 9). Bundy *et al*., (2009, p. 41) comment that 'sometimes it seemed that teachers were managing their own anxieties rather than the risk itself'.

Such anxieties are largely driven by two key discursive practices, the first on risk and safety and the second on children (Lester and Russell, 2014). In his review of health and safety laws, Lord Young (2010) notes the impact of compensation culture on the behaviour of professionals. Fear of litigation has grown in proportion to the growth of aggressive advertising of compensation businesses, leading to an over-zealous approach to safety and a desire to eliminate risk entirely. As Lester and Russell (2014, p. 241) note:

> Risk is big business. It has assumed almost universal acceptance as an ever-present reality of life, something out there waiting to cause harm … It commands vast resources to develop preventative measures that are the preserve of experts issuing often contradictory advice and warnings. Children's play is caught up in this account. No longer something that children just do, it is subject to adult scrutiny that simultaneously and paradoxically attempts to manage risk and promote "risk-taking" for its perceived instrumental benefits ... Adults thus guide children's play, rendering children passive and needy recipients of expertise.

The concept of 'risk' has moved from denoting the likelihood of a given outcome to being synonymous with danger (Brussoni *et al*., 2015). For professionals working with children, this creates a tension between their legal and moral duty to keep children safe and a growing literature on the benefits of risk-taking in play, which plays out across equally contradictory professional constructs of children as both vulnerable and resilient (Bundy *et al*., 2009; van Rooijen and Newstead, 2017). Added to these dilemmas, professionals know that it is they who will be held responsible in the event of an accident or claim; thus their risk assessments are judged to hold more sway than those of children themselves. Some supervisory staff also indicated that they did not feel protected by policy or relevant authorities should a difficult situation arise (Bundy *et al*., 2009).

Children can and do make judgements about whether or not to take specific risks, and exposure

to risk-taking helps to build risk assessment skills (Brussoni *et al*., 2012; Coster and Gleeve, 2008; Sandseter and Kennair, 2011; van Rooijen and Newstead, 2017). Children's propensity for risk-taking and their perception of risk and proneness to injury are affected by and affect a range of interrelated factors, including: personality; development and capacity; the social, emotional and environmental specifics of situations; the influence of parents and other adults (Sandseter and Kennair, 2011). For example, children with ADHD, who can typically be less afraid of dangerous situations, are up to two times more prone to risk of injury than other children (Prasad *et al*., 2018; Swensen *et al*., 2004). This adds to the complexity of how school staff make judgements about acceptable or unacceptable risk-taking (Spencer *et al*., 2016).

Much of the guidance on supporting risk-taking in children's play advocates a balanced approach that attempts to navigate the tensions between the need to keep children safe, their desire to take risks and the benefits of risk-taking (Ball, Gill and Spiegal, 2012; van Rooijen and Newstead, 2017). In the UK, the Play Safety Forum was established in 1993 to 'consider and promote the wellbeing of children and young people through ensuring a balance between safety, risk and challenge in respect of play and leisure provision' (Ball *et al*., 2012, p. 1). It is an independent body and has representation from national play organisations, the Health and Safety Executive (HSE), the Royal Society for the Prevention of Accidents (RosPA) and others. The forum published a position statement in 2002, followed up with a government-endorsed implementation guidance for managing risk in play provision (Ball *et al*., 2008, revised in 2012). The guide advocates a balanced approach to managing risks through the use of risk-benefit assessment processes, asserting 'well-conducted risk-benefit assessment process that is properly acted upon should provide a sound and reasonable defence against liability claims and prosecutions relating to health and safety matters' (Ball *et al*., 2012, p. 10). The risk-benefit process comprises a clear policy framework, risk-benefits assessment documentation, technical inspection and dynamic risk assessment during use.

The approach is supported by the HSE, who published a high-level statement in 2012, stating:

> Play is great for children's well-being and development. When planning and providing play opportunities, the goal is not to eliminate risk, but to weigh up the risks and benefits. No child will learn about risk if they are wrapped in cotton wool. […] Accidents and mistakes happen during play – but fear of litigation and prosecution has been blown out of proportion (Health and Safety Executive, 2012).

The Department for Education has also advocated a balanced approach, stating:

> children should be able to experience a wide range of activities. Health and safety measures should help them to do this safely, not stop them. It is important that children learn to understand and manage the risks that are a normal part of life. Common sense should be used in assessing and managing the risks of any activity. Health and safety procedures should always be proportionate to the risks of an activity. Staff should be given the training they need so they can keep themselves and children safe and manage risks effectively (Department for Education, 2013, p. 4).

With Amanda Spielman, then UK Ofsted Chief Inspector, also stating:

> Trying to insulate your pupils from every bump, germ or bruise, won't just drive you to distraction, it will short change those pupils as well – limiting their opportunity to fully take advantage of the freedom of childhood, and to explore the world around them (Hope, 2017).

Similar developments have been seen elsewhere internationally, including a declaration by the International School Grounds Alliance (ISGA, 2017) and the publication of global white paper on risk, liability and children's play in public space (Gill, 2018).

There is a growing body of research that outlines the benefits of risk in play. Children have a natural propensity to engage in risky play (Brussoni *et al*., 2012). This primarily takes place outdoors, in unstructured environments and it is often born out of children's desire for excitement, exploration, testing their limits and controlling the feeling of being out of control by usually involving height, speed, playing near potentially dangerous elements, exploring with the possibility of getting lost, or play fighting with elements of rough and tumble (Sandseter, 2009; Sandseter and Kennair, 2011).

In talking about risk, children themselves highlight activities that involve a level of challenge, sparking ambivalent feelings of fear and thrill, which can then transpire into exhilaration and achievement once a challenge is mastered. This heightened arousal is a key motivation for children's risk-taking, which they can extend and repeat in order to preserve that

feeling (Coster and Gleeve, 2008; Sandseter, 2009, 2010).

Perhaps the complex and dichotomous nature of risky play can be eloquently summarised by this child: 'Bicycling fast in a turn is fun … but also scary because I can crash – it tickles in my tummy' (Sandseter, 2010, p.82).

A systematic review of 21 research studies carried out by Brussoni *et al*. (2015) found that overall, the health benefits from risky outdoor play were greater than those associated with avoiding risk. Although cautious regarding the quality of the studies reviewed, benefits varied across three forms of risky activities: play where children can get lost, play at great height, rough and tumble play (discussed in section 5.1) as well as those emanating from studies on risky play supportive environments. They included increase in physical activity, social health and social competence as well as promoting social interaction, creativity and resilience. Opportunities for risk-taking can improve children's risk competence and perception (Brussoni *et al*., 2012; Lavrysen *et al*., 2017; McLachlan, 2014) as well as learning to cope with new, uncertain and fear-inducing situations (Sandseter and Kennair, 2011; Spinka *et al*., 2001). Changes made to playtimes that support more risk-taking report fewer injuries (Hyndman and Wyver, 2020; Lester *et al*., 2011).

Restricting opportunities for children to engage in play can bring risks of its own. For example, if a school playground is too safe, children said they become bored and frustrated, breaking rules and behaving recklessly (Hyndman and Telford, 2015). A possible more long-term effect is outlined by Sandseter and Kennair (2011) who suggest that if children do not have sufficient opportunities to experience risk, they do not develop the ability to cope with risk and fear, which could lead to psychopathology in the form of anxiety disorders.

Despite all the evidence, however, it is still difficult for some school staff to feel comfortable with children's risk-taking. Van Rooijen and Newstead (2017) point out that although the guidance promoting risk-benefit may be helpful insofar as it highlights the benefits of risk-taking, it is also too simplistic an approach for professionals caught up in 'a professional blizzard of contradictory opinions, guidelines and legislation related to risk' (p. 954) and who have to make in-the-moment decisions as a part of messy everyday events. These decisions are influenced by five factors that interact to throw up myriad dilemmas for practitioners: professional constructs of children, professionals' individual approaches to risk, the professional–parent relationship, and regulatory and cultural factors. Van Rooijen and Newstead suggest further empirical research is needed to explore how these factors influence practice.

6. Supervision of playtimes

Summary points

• In English primary schools, playground supervision is usually undertaken by teaching staff at morning break and by support staff on low rates of pay at lunchtime.

6.1 Freedom and control in the playground

• The playground is seen as a space where children have more freedom, yet adult control of the space is still apparent through rules and their imposition.

• This presents a dilemma in terms of supporting children's self-organised play and managing and controlling playground behaviours that cause concern.

• Most midday supervisors in English primary school are women; women tend to seek to control the rumbustious play of boys.

6.2 Rules

• Rules often focus on maintaining children's safety, promoting prosocial behaviour and avoiding aggression, or for the smooth running of the school.

• Several rules impose spatial restrictions, including out-of-bounds areas, spaces that can only be used at special times, and spaces whose use is prescribed.

• 'In-between' and out-of-bound spaces are often attractive to children who do not enjoy the hurly-burly of wide-open spaces.

• Many playgrounds separate children by age, which some children dislike as they want to be with siblings.

• Spaces can also be used in punishment such as standing facing the wall or being told to stay in one place.

• Rules sometimes appear to be ad hoc.

6.3 Conflict management

• The playground offers opportunities to make friends but also to deal with fallings out, teasing and conflicts.

• Perceived poor behaviour was the biggest concern about playtimes expressed by school staff, with a growing sense this is caused by poor social competence.

• This highlights the tension between adult intervention or structuring of activities and children's opportunity to work things out for themselves.

• There are some children who experience bullying and exclusion, suggesting the need for adult intervention.

• As reviewed in section 7, there are ways to make changes to playgrounds and playtimes that reduce conflict and do not require more adult control.

Baines and Blatchford (2019) note that in English primary schools, teaching staff usually supervise morning breaks whereas lunchtime playground supervision is usually undertaken by support staff (midday assistants, playground supervisors) on low rates of pay. Ratios of staff to pupils have increased since their last survey in 2006. However, there is no official advice on ratios of staff to children (National Education Union, 2019). Training and supervision of staff was most likely to be through meetings with senior staff, with some schools also providing training either through the education authority (15%, significantly lower than in 2006) or by an outside agency (40%, up slightly on 2006), although there is no detail on what might be covered in training sessions or meetings (Baines and Blatchford, 2019).

The National Education Union (2019) guidance for schools on playground supervision focuses on legal and contractual issues. Legal issues address health and safety concerns and risk assessment. A brief online survey of job descriptions and person specifications for midday supervisors carried out by the authors for this review shows a varied approach ranging from a focus on control and management of children for their own safety through to supporting children's play.

6.1 Freedom and control in the playground

The playground is seen as a space where institutional control is slightly relaxed, yet it is also a space circumscribed by the culture of the school, the rules of the playground and the ways such culture and rules are upheld by those supervising (Rönnlund, 2015; Thomson, 2005, 2007, 2014; Waite *et al*., 2013). As Waite *et al*., (2013, p. 259) note, the

playground operates as a space between strict classroom control and self-organised playing: 'In these ambiguous outdoor spaces, the cultures of school, home and society may collide, but children have a chance to try out different ways of being'. Nonetheless, these moments are also fragile, likely to be subject to adult intervention and colonisation. Given this, as Baines and Blatchford (2019) note, playtimes present a dilemma for school management. They represent a source of concern for supervising staff who can regard them as the most challenging time in school, governed by aimless activity and an opportunity for children to become aggressive and engage in conflicts (Armitage, 2005; Baines & Blatchford, 2019; Thomson, 2007). This and other concerns have been reviewed in section 5 and include social conflict, exclusion and risk. As a result, there is a continuing shift towards a more interventionist stance in order to prevent allowing 'anti-school cultures and negative behaviour to dominate potentially having a destructive effect on learning' (Baines and Blatchford, 2019, p. 18).

Following her three-year observations of playtimes across three primary schools, Thomson (2014, p. 10) notes:

> for a number of often well-intentioned reasons, teachers and others were catalysts in transforming children's spontaneous natural play into what I termed circumscribed play. By this I mean play that was bound by rules, regulations and anxieties, and orchestrated in order to suit the desires of the teachers and the outcomes of the institution. There was a clear division in what staff saw as good or bad play, and they policed play constantly to determine the difference and to enforce the rules of what they saw, from their perspective, as suitable or unsuitable play.

As this shows, in many schools, the playground has emerged as a site of children's containment through surveillance and intervention, of adult scrutiny and regulation of children's playground activity, which is often at odds with the ways in which children enjoy playing, and arguably, the nature of play itself (Thomson, 2005; Thomson, 2014). However, Thomson (2014) notes that most adults saw their interventions in terms of support, concern and protection in order to improve children's experiences of playtimes rather than in terms of disciplinary power and control.

It should be noted that the vast majority of midday supervisors in English primary schools are women (Office for National Statistics, 2019), and that this can have an effect particularly on the supervision of boys (Schåfer and Smith, 1996; Thomson, 2014). Thomson (2014) identified a level of feminine bias in the supervision of boys, one that she concluded was 'discriminating against types of games that boys enjoy … rumbustious, noisy activity that supervisory staff (all women) disliked' (p. 18), observing also that the nature of activities such as football and play fighting seemed to alienate the female staff.

Whatever the intention of supervising staff, Smith (2010) comments that the more adults control children's play, the less like play children's behaviour becomes, adding, 'We should bear in mind that children do also enjoy and probably get benefits from the kinds of play that adults do not prefer' (p. 197).

6.2 Rules

Rules form part of the overall culture and feel of the playground, as was seen in section 4. Rules may often be to do with maintaining children's safety, or promoting prosocial behaviour and minimising antisocial behaviour, or for the smooth running of the school (eg muddy shoes, ease of supervision) (McKinty, 2016; Rönnlund, 2015; Thomson, 2005, 2007, 2014; Waite *et al*., 2013). One example was of a teacher who banned games of 'chasey' (tag, he, it) because she had run out of patience in dealing with the issues that had to be addressed once back in class (McKinty, 2016).

Several rules impose spatial restrictions on children. Thomson's (2005) study reveals adult 'territorialisation' of the space, an imposition of power determining use of and access to specific areas. She outlines a triad of spatial restrictions during playtimes: out-of-bounds spaces, privileged spaces and prescribed spaces. Out-of-bounds places typically include grassed fields in wet weather (due to concerns of mud being brought into school buildings), or areas for specific age groups, often segregated and clearly defined. Aminpour *et al*., (2020) also note that some areas are out-of-bounds because they are not easily supervised by staff (this being their attraction for many children). Privileged spaces are highly attractive to children, having special equipment or other features of interest. Access is highly controlled by adults and granted only when children meet certain behavioural expectations such as being quiet or playing nicely. Finally, prescribed spaces have their use already determined, for example areas with markings for specific games, or the quiet area.

It is common for schools to separate children by age (Cudworth, 2015), something which is not always

popular with children. It can cause friction and supervision issues due to conflict among children with regards to the type and amount of space they can access; in addition, it reduces opportunities for much-needed social interaction (Thomson, 2005). Dissenting children's accounts of playground segregation are illustrative of this and also touch on issues of equality in their spatial access:

> 'I don't like the line down the middle of the playground, as I've got friends on the other side.'
>
> 'And the Year five and six space is bigger than ours.'
>
> 'I don't see my brother much anymore because he is a big boy in the big space' (Thomson, 2005, p.75).

The issue of separation from siblings was also important to Gypsy/Traveller children, whose older siblings are expected to look after younger ones. Separation by age means they are unable to fulfil this duty (Cudworth, 2015).

Specific areas are also used as punishment: children are 'banished' to the edge of the playground, or told to stand against the wall as a form of punishment, with the ultimate punishment being expelled from the playground altogether and sent to the headteacher (Thomson, 2005). Such public shows of punishment also serve to reinforce the circumscriptions and adult control of the space.

Other rules are in response to perceived risks for children and the prevention of harm. Teachers adopt a range of strategies, including direct requests to stop a particular activity, removing materials that they perceived were dangerous, reducing numbers of children in certain areas, and intervening to discuss the situation with children in order to raise awareness of the consequences of their actions and to encourage reflection (Bundy *et al*., 2009; Lester *et al*., 2011). Teachers' anxieties regarding risk are also discussed in section 5.3.

Sometimes, rules appeared to be ad hoc or dependent on context or even supervisors' moods. Although children mostly showed an understanding of and absorbed rules into their play, sometimes this left them unsure of what was allowed and the reasons for this (Thomson, 2005). Way's (2011) study of school discipline (not only in the playground) found that children's compliance with school rules is also linked to how fair they perceive the rules to be, as well as to the extent to which relationships between children and staff are positive.

6.3 Conflict management

Playtimes offer an important opportunity for children's social interactions and bonding. This includes developing friendships, building networks, and also learning how to deal with falling out, handle teasing and slights, and develop strategies to cope with disagreements and conflict (Baines and Blatchford, 2019). This highlights another tension for supervising staff, namely one that allows for children to develop social skills through coping with disagreements and conflict or stepping in to resolve issues as soon as they arise in the hope of avoiding further conflict.

Perceived poor behaviour was the biggest concern expressed by school staff, with a growing sense that this is down to poor levels of social competence (Baines and Blatchford, 2019). Longaretti and Wilson's (2000) multi-method qualitative study showed how playground supervisors were mostly quick to intervene in disputes, employing authoritarian measures such as 'pre-judging the situation, lecturing, separating disputants and imposing solutions' (p. 12), believing this to be successful as it stopped the negative behaviour. Alongside this, a common response to conflicts for children themselves, alongside verbal and physical threats, was to call in a supervisor to sort out the situation. For some children, aggression and bullying in the playground is frightening and has a deep influence on their enjoyment of school. Given this, proactive measures to encourage prosocial behaviour may be appropriate in some circumstances (Mulryan-Kyne, 2014).

A range of strategies have been employed by schools to prevent conflict and to promote prosocial behaviour, including delivering adult-led structured activities such as teaching traditional playground games (Armitage, 2005; Fortsan *et al*., 2013; Smith, 2007). Baines and Blatchford's (2019) UK national survey identified that structured, adult-led activities were arranged and delivered by almost half of respondent primary schools (either formally or informally).

Whilst there is an argument that targeted supervision and intervention can support children who are vulnerable, who struggle to manage their emotions, or who may be experiencing inequality and discrimination, Mulryan-Kyne (2014) argues the need for adult interventions should be balanced against the benefits of unstructured play. Generally speaking, the benefits that arise from children's ability to find time, space and permission to engage in unstructured play are such that adult control should be kept to a minimum (see sections 3 and 4).

As is discussed in section 7, there are ways of making changes to playgrounds and playtimes that do not require more adult control. Broadly, these find that the more diverse the possibilities on offer for play, the more inclusive playgrounds are, with a reduction in incidents and conflicts as children are engaged and there is less need to argue over space or resources.

6.4 Initiatives to address supervision issues

As well as the intrinsic and instrumental benefits of unstructured, self-organised play for children and schools, there are pragmatic reasons for reconsidering habits and routines for playgrounds and playtimes. As noted at the outset of this review, the cost of supervising midday playtimes in UK primary schools is £750 million, and the supervision of primary school playtimes is predominantly carried out by people on minimum wages, with no management and with no clear direction from school leadership.[4] Thomson (2014) also recognises the lack of training on play for playground supervisors and teachers alike. Baines and Blatchford (2019) similarly highlight the lack of and need for training opportunities, noting also the danger of supervisors being blamed for what goes wrong on the playground, along with having the quality of their supervision questioned, 'when the rates of pay and conditions of service of support staff are not necessarily sufficient to provide quality supervision' (p. 92). In advocating training for supervising staff, they go on to say, 'given that breaktime … still takes up a sizeable part of the school day, we argue that supervision needs to be seen as important and worthy of as much planning and forethought as that given to supervision and teaching within the classroom' (pp. 92-93).

Some of the interventions described in section 7 include training for supervising staff (eg, Armitage, 2009; Besse-Patin *et al*., 2017; Lester *et al*., 2011) in playwork approaches. Playwork is a way of working with children based on the principle that self-organised play, engaged in for its own sake, is central to children's lives, development and well-being. It is underpinned by eight principles which promote the view that play should be 'freely chosen, personally driven and intrinsically motivated', highlighting that the adult role is to support self-directed play (Playwork Principles Scrutiny Group, 2005). It is a low-intervention, high-response approach.

Armitage (2009) notes that, following training and mentoring from playworkers, supervisors could see play and playing in new ways, becoming more comfortable with the unstructured and less organised play opportunities on offer.

Supervisors' responses to risk feature prominently. Bundy *et al*. (2009), in reporting on their research introducing loose parts into Australian school playgrounds, note that although accidents did not increase following the change, staff expressed great concern about the perceived greater risks both of harm to children and of litigation, feeling they had a duty of care to intervene if they felt the level of risk warranted. The authors conclude that 'simply adding loose parts to the playground is unlikely to be enough to result in the long-term changes desired' (Bundy *et al*., 2009, p. 42), and that 'risk-reframing' work was needed both in terms of supervisory staff's perception and support from parents and education authorities for more sustainable change. This supports Armitage's (2009) conclusion that the influences of school culture and adult behaviour also need to be considered; it is not enough merely to change the physical landscape.

Following the introduction of 'risk-reframing' workshops for both staff and parents, some staff continued to see the resources as hazardous (Bundy *et al*., 2017), but the researchers also note that 'adults enjoyed thinking about what children can do rather than what they should not do' (Bundy *et al*. 2015, p. 2).

The question of adult approaches to supporting self-organised play with loose parts was also central to a more recent ethnographic study of the introduction of Scrapstore PlayPods into schools in Paris, where playwork was little known (Besse Patin *et al*., 2017). The project included playwork training for supervisors; however, the playwork principle of low intervention, together with the indeterminate nature of the loose parts, gave rise to great anxiety on the part of the animateurs. Besse Patin *et al*. (2017) report how the animateurs were used to working with rules and enforcing them, seeing this as their role. Watching a film of PlayPods in action, one animateur described it as all their nightmares in one place at the same time, feeling unsure of how to cope with the unpredictability of children's play with the loose parts. In practice, the animateurs had different understandings of the concept of low intervention. Some felt they should stand back and do nothing at all, telling the children this when they were asked for help or invited to join in, which confused the children. Others felt unable to forgo their original role and found the high activity and unpredictability of the sessions exhausting. The researchers observed that children, when allowed, introduced their own rules to playing, often which had safety in mind. However, the animateurs were worried about injury and also about criticism from

4 https://outdoorplayandlearning.org.uk/opal-wins-funding-from-sport-england-and-the-national-lottery/

management and the possibility of litigation. Besse Patin *et al*. (2017) point out that playwork practices are not easy for beginners who have been trained differently. They felt that more training was needed to give the opportunity to talk through what the principle of low intervention meant in practice.

A final comment regarding the dilemma of freedom and control in the playground comes from Mulryan-Kyne (2014, p. 389), who argues that relatively low-level adult attention and scrutiny may help with the development of social skills and resilience, noting also that:

> the quality of supervision and the quality of whole school interventions may be more important than whether or not organised activities are provided or other interventions that affect the choices children make on the playground. However, decisions in this area need to be context specific taking into account the characteristics of the child cohort and school factors.

The following section considers some of the interventions that schools have made with the intention of improving playtimes.

7. Interventions to improve playtimes

Summary points

7.1 Some broad principles

• Play is a universal right for children enshrined in article 31 of the United Nations Convention on the Rights of the Child (UNCRC).

• General Comment 17 on article 31 includes specific obligations on schools to respect this right.

• As play takes place whenever the conditions are right, attention turns to those conditions rather than to 'providing play'.

• Playtimes that work for children take into account physical, temporal and cultural aspects of the space.

• The more diverse the affordances on offer, the more inclusive playgrounds are.

7.2 Interventions to increase physical activity

• There are growing concerns about children's sedentary lifestyles, lack of physical activity and growing levels of obesity.

• Children's physical activity during unstructured playtimes can be significantly more than during organised PE lessons, with a higher level of engagement.

• School playgrounds and playtimes have been identified as suitable sites for intervention in order to increase levels of physical activity.

• Physical activity levels are higher on grassed areas than on hard surfaces, especially for girls.

• Making permanent changes to playground markings and physical structures increases levels of physical activity, especially when children have more time to play, but this diminishes over time.

• The introduction of loose parts is linked to more physical activity and to more varied forms of movement, although further empirical research is needed.

7.3 The introduction of loose parts

• As well as increased physical activity, the introduction of loose parts also gave rise to more complex and varied play forms, more collaboration and creativity, fewer incidents and accidents.

• Children previously on the edge of playing could join in and greater integrated play between boys and girls was observed.

• Staff reported enhanced engagement in lessons following playtimes.

• The uncertainty, flexibility and unpredictability of children's play with loose parts has posed challenges for supervising staff, particularly in terms of responding to risk and the use of rules.

7.4 Natural playgrounds

• There is growing concern about children's diminishing contact with nature, although there are also criticisms of an over-romanticised, middle class nature movement.

• Children are attracted to natural environments that are complex, challenging and exciting.

• The flexibility and diversity of natural spaces invite more complex, varied and longer-lasting play forms.

• Benefits of outdoor play in nature include increased varied physical activity, reduced risk of obesity, improved cognition and academic achievement, reduced stress and enhanced protective factors for resilience, improved social and emotional skills and development, and improved health and wellbeing.

• Schools offer a good opportunity to increase children's contact with nature, and there is a growing international movement to green school grounds.

• Greening of school grounds can help reduce inequalities of access to green space.

• Where interventions have been made in schools, children engaged in a wider range of physical movements, play was more imaginative and varied, and children showed more prosocial and less antisocial behaviour.

• Staff observed better social and problem-solving skills, focus, self-regulation, creativity, self-confidence and attention restoration, alongside reduced stress, boredom and injury.

• For maximum effect, cultural aspects need to support any physical changes, particularly in terms of supporting diverse play forms and access to all parts of the space in all weather.

• Greening school grounds can also contribute to urban resilience in the face of increasing extreme weather events.

Having discussed how schools and children value playtimes and their concerns, this section considers the literature on interventions that have been made explicitly to improve playtimes. Baines and Blatchford (2019) found that 53% of primary schools responding to their survey had recently worked with an outside agency to develop their school grounds, although this was lower than their previous 2006 survey, when the figure was 63%. Most of these changes were to fixed equipment or the introduction of a garden or quiet area. Such changes affect the physical landscape and will inevitably change what playgrounds have to offer children; however, here the focus is more on sustained interventions that either had a specific desired effect or introduced specific new arrangements (material and/or cultural).

The literature spans a range of initiatives that overlap, and having considered options for grouping the studies in order to present them, we decided on three key themes: interventions aimed specifically at increasing physical activity; the introduction of loose parts into school playgrounds; and the concept of 'natural playgrounds'. There are many overlaps, and at the same time there are some studies that do not fit neatly into these categories. Given this, we present some broad principles and some examples of broader interventions first before looking at these themes.

7.1 Initiatives to enhance playtimes: some broad principles

Play is a universal right for all children, as stated in article 31 of the UNCRC. In 2013, the UN Committee on the Rights of the Child published a General Comment outlining guidance to governments on their responsibilities, including specific obligations for schools:

> Physical environment of settings: States parties should aim to ensure the provision of adequate indoor and outdoor space to facilitate play, sports, games and drama, during and around school hours; active promotion of equal opportunities for both girls and boys to play; adequate sanitation facilities for boys and girls; playgrounds, play landscapes and equipment that are safe and properly and regularly inspected; playgrounds with appropriate boundaries; equipment and spaces designed to enable all children, including children with disabilities, to participate equally; play areas which afford opportunities for all forms of play; location and design of play areas with adequate protection and with the involvement of children in the design and development; structure of the day: Statutory provision, including homework, should guarantee appropriate time during the day to ensure that children have sufficient opportunity for rest and play, in accordance with their age and developmental needs (UNCRC, 2013, pp. 21-22).

This suggests that schools have a moral and legal duty to ensure that playtimes and playgrounds work for all children. The General Comment also notes that play 'takes place whenever and wherever opportunities arise' (UNCRC, 2013, p. 5). This means that it does not necessarily need to be 'provided' in any direct way, but rather what adults need to do is to work towards creating the conditions that support play. These conditions are often grouped into three interrelated aspects of time, space and permission (Follett, 2017; Burton *et al*., 2019).

The evidence presented so far in this review shows that the success or otherwise of playgrounds and playtimes is therefore more than the physical aspects of the playground, important though these are. Several draw on social-ecological frameworks for their analysis (for example, Aminpour *et al*., 2020; Hyndman and Chancellor, 2015; van Rooijen and Newstead, 2017), highlighting how 'the concept of "environment" includes physical, social and organisational characteristics that have both subjective and objective qualities' (Aminpour *et al*., 2020, p. 194). For example, Farmer *et al*.'s (2017a) study into interventions to reduce bullying included increasing opportunities for risk and challenge, reducing rules and introducing loose parts.

Many studies draw on the theory of affordances (eg, Aminpour *et al*., 2020; Bagot *et al*., 2015; Chawla *et al*., 2014; Brussoni *et al*., 2017; Sando and Sandseter, 2020). The term was coined by James Gibson (1979) to refer to what an individual perceives they can do with any environment or environmental feature. So, for example, a low wall may afford balancing on or a hill rolling down, depending on each individual's perception. This is more than just the physical properties, however, as socio-cultural issues also play a part in whether affordances can be actualised (Kyttä, 2004), bringing attention back to key elements of time, space and permission. The greater the range of affordances, the more inclusive the space is (Brussoni *et al*., 2017).

Herrington and Lesmeister (2006) offer the 7Cs as research-informed criteria for assessing the design of outdoor space rather than listing specific features. They are:

- character: the overall feel and design intent of the space;
- context: the interrelationship of the play space and its wider context (including climate);
- connectivity: how areas connect with each other, including the indoor and outdoor spaces;
- change: diversity of affordances within the space as well as how it changes over time and how children can change the space (including planting and loose parts);
- chance: the opportunity to do something, to interact with the space and modify it; the chance for mystery and exploration;
- clarity: the space should be coherent and readable, including sight lines and sound;
- challenge: the opportunity for challenge and risk-taking.

Such a holistic perspective is also at the heart of the approach taken by OPAL. This school improvement programme works with schools over a period of time to make changes both to the culture of the school and the physical design of the playground, starting with the culture. They use the PARK acronym to outline key principles: policy, access, risk and knowledge (Follett, 2016). Policy refers to developing a clear public statement that outlines the school's values and principles regarding play and the actions to be taken. Access is about making all of the available space available to all children at all times of the year, and about changing the space in order to offer greater variety and material richness based on sound design principles (Follett, 2017). Risk is about acknowledging there is no challenge without risk and being clear on how schools balance risk and safety. Knowledge refers to the importance of training and professional development for staff in understanding play and adults' role in supporting play (Follett, 2016). Evaluation of the programme found that benefits to schools included:

- changing the attitudes and culture of the school's understanding and position on play (particularly in relation to risk, adult control and all-weather play);
- altering the school grounds imaginatively and creatively in order to open up more possibilities for play;
- changing children's play patterns, and encouraging greater variety of play behaviours and wider use of time, space and materials for child-initiated outdoor play;
- increasing children's enjoyment of playtimes, with an associated reduction in perceived disruptive behaviour (Lester *et al*., 2011, p.12).

7.2 Interventions to increase physical activity

There are growing concerns about children's sedentary lifestyles, their lack of physical activity and growing levels of obesity (Alexander *et al*., 2014; Mills and Burnett, 2017; Ridgers *et al*., 2007, 2010). Being physically active in childhood is linked to continued physical activity through life and brings with it benefits such as a healthy body weight; good physical, mental and social health; and reduced depression and anxiety (Mills and Burnett, 2017). Pellegrini and Smith (1998) posit that physical activity play is an immediate need for children with immediate benefits of motor training and cognitive performance.

Children's physical activity during unstructured outdoor playtimes can be significantly more than during organised PE lessons, with a higher level of engagement (Beresin 2012; Burdette and Whittaker, 2005; Pellegrini and Smith, 1998), and is on offer daily rather than once or twice a week.

School playgrounds and playtimes have been identified as suitable sites for intervention in order to increase levels of physical activity, supported by guidance and initiatives from government and health bodies. For example, the latest guidance to schools and colleges from Public Health England (2020) includes non-traditional play materials and free play as contributing factors in increasing children's physical activity. Similarly, the UK government's Sports Premium funding guidance includes 'encouraging active play during break times and lunchtimes' as one of the key indicators for use of the funding.[5]

It is worth giving a brief overview of studies that have measured children's physical activity in school playgrounds without interventions, as these highlight differences between children as well as correlations with physical and cultural environmental features. Generally, boys are more physically active than girls, playing sports (often football) in large groups, whereas girls tend to 'walk and talk', play tag or other chasing games, dance, or play more imaginary games (Anthamatten *et al*., 2014; Dudley *et al*., 2018; McWhannell *et al*., 2019; Powell *et al*., 2016; Willenberg *et al*., 2010). Children from poorer backgrounds are less active than their wealthier

5 https://www.gov.uk/guidance/pe-and-sport-premium-for-primary-schools#about-the-pe-and-sport-premium

counterparts, and feel their playground does not have enough space or resources (McNamara, 2013; McWhannell *et al*., 2019). Physical activity levels are higher on grassed areas than on hard surfaces, especially for girls (Dudley *et al*., 2018; Wood *et al*., 2014). The density of playground features is associated with higher levels of use (Anthamatten *et al*., 2014). The availability of loose parts is linked to greater vigorous physical activity (VPA), and fixed equipment and line markings to moderate physical activity (MPA) (Willenberg *et al*., 2010).

Many studies on children's physical activity make some comment regarding the effects of adult supervision, but these are not consistent, as Dudley *et al*. (2018, p. 7) note:

> There is an increasing body of evidence to suggest safety-related policies regarding school playground behaviour and the role teachers take in enforcing or encouraging behaviour will restrict or enhance the quantity and intensity of physical activity children undertake during recess and lunch break.

Sando and Sandseter (2020) found that for the most part, adults were not directly involved in moments of high physical activity, also observing some instances where adult involvement in the play increased physical activity but that when the adult had to leave the play, it petered out. Other studies mention how adults' risk averseness can contribute to restricting some forms of physical activity play (Alexander *et al*., 2014, 2015,2016; Bundy *et al*., 2017).

Parrish *et al*. (2020) note a marked increase in interventions, including 43 studies in their systematic review. Although generally the review 'showed trends supporting the effectiveness of school recess interventions to increase children's physical activity and reduce sedentary behaviour' (p. 2168), the authors urge caution, given the variability in study outcomes and lack of consistency in results.

Taylor *et al*. (2014) suggest that intervention strategies to increase children's physical activity can be grouped into three kinds: permanent environmental modifications; the introduction of specific directed or undirected activities such as game and sports; and what they term 'non-directive, non-permanent environmental modification' (p. 3), generally referring to loose parts.

Ridgers *et al*.'s (2010) intervention comes under the first category. Playground markings and physical structures were introduced to 15 schools, with 11 others acting as control schools. Physical activity was measured using heart monitors and accelerometers. They found an increase in MVPA and MPA in intervention schools, with a greater increase for those who were less active at baseline, but this was greater at 6 months than at 12 months. Overall physical activity was higher if children had more time to play.

Playworks, a US-based organisation, is an example of the second kind of intervention. Trained coaches lead activities and games aimed at supporting children in schools in low-income areas to engage in physical activity, develop social and emotional skills, learn conflict resolution and create an inclusive culture, as well as training junior coaches (Massey *et al*., 2017). Although teachers reported increased physical activity, the programme was found to have little impact overall on increases of physical activity as measured by accelerometers or surveys of the children. However, the programme was found to have a positive impact on girls' physical activity (Bleeker *et al*., 2015) and on Black children (James-Burdumy *et al*., 2014). In addition, the programme was also found to have a significant positive impact on reducing conflict, with better interactions between adults and children (Massey *et al*., 2017). Given the highly structured nature of the programme, it may be that such adult directed activity does not meet the definition of play used in this review. The remainder of the studies reviewed here involved the introduction of loose parts (Armitage, 2009; Bundy *et al*., 2017; Engelen *et al*., 2017; Farmer *et al*., 2017a; Hyndman *et al*., 2014; Taylor *et al*., 2014), sometimes together with other aspects such as increasing opportunities for risk and challenge and reducing rules (eg Farmer *et al*., 2017a). A more detailed review of these studies is given in section 6.3, including an explanation of the principles behind this form of intervention. Here, the focus is on the impact of the intervention on children's physical activity, although it is recognised in the studies that this cannot be separated from all other aspects of the interventions (including issues such as supervision and attitudes to risk).

All the studies used some form of control or quasi-experimental approach (all used baseline measures), and there were variations in terms of the length of the studies. Physical activity levels were measured using accelerometers (Bundy *et al*., 2017; Farmer *et al*., 2017b; Taylor *et al*., 2014), heart monitors (Taylor *et al*., 2014), pedometers (Hyndman *et al*., 2014), observation surveys such as SOPLAY (System for Observing Play and Leisure in Youth) (Hyndman *et al*., 2014) and SOOP (System for Observing Outdoor Play) (Engelen *et al*., 2017), as well as videos, surveys and questionnaires (Bundy *et al*., 2017; Hyndman *et al*., 2014).

One study (Farmer *et al*., 2017b) found that although schools rated the intervention highly and reported increased physical activity, this was not confirmed in objective measures (but note the comment in the following paragraph on the limits of such measures).

All other studies found significant increases in physical activity overall, again more marked for girls and those whose physical activity was lower at baseline. There was also a reduction in inactivity and aimless wandering (Engelen, *et al*., 2017). Bundy *et al*., (2017) comment that physical activity was probably higher than could be measured by instruments used, since they could not measure much of the activity involved in playing with loose parts, such as pushing and pulling large materials, constructing, climbing and so on, a point echoed by Hyndman *et al*. (2014). They also note that 'while these actions can be expected to increase energy expenditure, some may result in slowing of movement, another indicator that our findings may underestimate the actual value for promoting physical activity' (Bundy, 2017, p. 757). Hanscom (2016) further elaborates on the importance of this unrecorded movement, emphasising that it is crucial for children's vestibular sense and proprioception, stating 'most vestibular input can be gained through ordinary play experiences' (p. 49). She found that only 1 in 12 children had the average core strength and balance of children studied in 1984, leading to underdeveloped vestibular sense that results in fidgeting, tears, falls, aggression, and difficulty maintaining attention.

Some studies question the focus on measuring physical activity. Beresin (2012, p. 137) comments, 'it is precisely because play cannot be distilled as gym, and health cannot be distilled as nutrition alone, that to quantify movement only offers play's shadow'. Alexander *et al*. (2014, 2015) caution that if children's play is normalised within a narrow discourse of healthy, active play practices it may contribute to privileging the actively playing child. This may lead to stigmatising children who play differently as well as unwittingly reshaping meanings and affective experiences children attach to play: some play may be seen as not as 'good' because it is less active, even though it may be as beneficial for their social and emotional wellbeing.

7.3 Loose parts

Many of the interventions to enhance children's experiences of playtimes in primary schools have included the introduction of 'loose parts'. The term comes from an article by artist and lecturer Simon Nicholson who said that professional adults such as artists, designers, builders, have all the fun playing around designing and creating playgrounds and children are presented with a static finished product that offers little opportunity for creativity. Nicholson is often credited with coining the term loose parts, but he traces the concept back to the 'discovery method' of education, highlighting how loose parts would have been incorporated into many primary schools using this method in the 1970s and not only at playtimes (Nicholson, 1971).

Nicholson's theory is encapsulated in a single much-quoted sentence:

> In any environment, both the degree of inventiveness and creativity, and the possibility of discovery, are directly proportional to the number and kind of variables in it (Nicholson, 1971, p. 30).

In terms of materials, loose parts are indeterminate, non-prescriptive, natural, recycled or waste materials that children can 'move, combine, change, alter and manipulate' (Follet, 2017, p. 126). These might include small items such as buttons, shells or beads, and also much bigger items such as pallets, timber, tyres, sheets, netting and more. For Nicholson, loose parts are variables, and his list of examples extends beyond the focus on materials now evident in early years, playwork and school settings (Armitage, 2018; Robertson, 2017). For him, variables include:

> materials and shapes; smells and other physical phenomena such as electricity, magnetism and gravity; media such as gases and fluids; sounds, music and motion, chemical interactions, cooking and fire; and other people, and animals, plants, words, concepts and ideas (Nicholson, 1971, p. 30).

The centrality of loose parts to playwork practice can be evidenced in the network of 'scrapstores' that grew out of the UK playwork movement. These play resource centres collect industrial waste from participating businesses (paper, cardboard, tubes, fabric, and diverse other waste materials from productions processes, as well as larger items such as timber, pallets, netting and so on), store it in a warehouse and make it available to children's projects.[6]

The early advocates of loose parts emphasised their role in supporting children's creativity and self-organised play. Over the last twenty to thirty years the concept has made its way back into schools, this time not as a pedagogical approach but in the playground. One example is the Bristol Scrapstore PlayPods, whose pilot project ran from 2006-2009. The project provides primary schools with a shipping container full of large scrap materials such as cable reels, tyres,

6 https://www.reusefuluk.org/

cardboard tubes, fabric and much more, together with training for lunchtime staff and support and mentoring from playworkers, including modelling in the early stages how to support play with the loose parts with minimal interference. Interviews with staff prior to the introduction of the pods showed both enthusiasm and concerns, including the idea that the children would not know how to play with such materials without adult guidance and worries about accidents and incidents (Armitage, 2009). In the event, these fears did not materialise in any substantial form.

What was noticed was the initial excitement and high spirits at being introduced to the loose parts, a typical exuberant testing out of what was on offer. This often manifested itself in rough and tumble play, but the mentoring meant that supervising staff could hold their nerve and after a while see the play shift towards construction, dressing up and more complex role play. This initial high-spiritedness and later settling into more complex forms was also observed in other studies (for example, Bundy, 2009; Verbene, 2014). Children played in larger groups with much collaboration. There were fewer incidents and accidents than before the introduction of the PlayPods. The evaluator commented:

> The presence of loose parts in sufficient quantity does not seem to have been the most decisive factor in promoting the imaginative and cooperative play that the adults reported being so positive: it was the combination of the loose parts and the absence of adult direction that was so important. In other words, the experience was all the more powerful because their children were being left to their own devices (Armitage, 2009, p. 52).

Yet the uncertainty, flexibility and unpredictability of children's play with loose parts has posed challenges for supervising staff, particularly in terms of responding to risk and the use of rules, highlighting the tension between needing to support children's play and to keep them safe as discussed in section 5.3 (Bundy *et al*., 2009; Besse Patin *et al*., 2017; Lester *et al*., 2011; Sterman *et al*., 2020; Spencer *et al*., 2016). Issues of supervision are considered in more detail in section 6.

At the same time, staff reported enthusiastically on increases in children's creativity (further developing over time), collaboration, engagement and enjoyment of playtimes, as well as their making fewer demands on supervising staff to intervene in squabbles (Bundy *et al*., 2008; Lester *et al*., 2011; McLachlan, 2014; Sterman *et al*., 2020). The flexibility of both the materials and the atmosphere supported children's self-organised unstructured play, as measured in one study through the use of a Test of Playfulness assessment 'consisting of four elements: (1) intrinsic motivation, (2) internal control, (3) freedom from the constraints of reality, and (4) "framing" (ie., the giving and reading of cues)' (Bundy *et al*., 2008, p. 522). This approach acknowledges the intrinsic value of playing, alongside more instrumental elements of the same project, measuring physical activity and development of social skills (Bundy *et al*., 2017).

Johnson's (2013) very detailed description of girls' den building over time and how this was affected by external events as well as available objects gives another perspective of how loose parts can play a role in the fragile and shifting process of making and keeping friends.

In terms of instrumental and institutional value, a survey of headteachers was carried out in 2012 by Bristol Scrapstore into their perceptions of the impact of PlayPods in their school. Some schools had by this time had PlayPods for several years. A summary of findings is given here:

- large-scale improvements in the level of inclusion between children who would previously have remained on the periphery for a variety of reasons;
- significant reductions in lunchtime incidents and accidents;
- better integration across year groups, generating confidence and developing esteem through helping each other and showing each other the way;
- more integrated play between girls and boys, with a change in the footballing fraternity as the opportunities for outdoor play present themselves;
- improvements in behaviour and reduction in boredom and aggression;
- more confident and motivated lunch time staff;
- happier children and staff in school;
- enhanced engagement in lessons;
- positive parent reactions (James, 2012, p. 3).

Many studies on the introduction of loose parts have focused on instrumental value and particularly what they offer for encouraging physical activity, as described in section 7.2. Gibson *et al*.'s (2017) systematic review sought to find objective and quantitative evidence relating to cognitive, social and

emotional outcomes from such interventions. They conclude that there is little such evidence for these outcomes, recommending that this is an area for further research.

It is worth pointing out here a view from children's folklorist Judy McKinty (2006), who suggests that the introduction of loose parts is yet another adult incursion into children's self-organised play in school playgrounds. She sees this as a part of the 'movement towards adult-sponsored "free play"' (p. 44) that promotes unstructured and imaginative play over the traditional games that require skill and practice to learn.

7.4 Natural playgrounds

Concern has been voiced by both researchers and popular commentators since the early to mid-twentieth century about children's diminishing contact with nature and the consequences of this, both for children's health and the health of the ecology (Chawla, 2015; Kraftl *et al*., 2018).

For example, in 2012 the National Trust published a report (Moss, 2012) showing that less than one in ten children regularly played in wild spaces, compared to half of children a generation ago (although the reduction in contact over a longer period has been questioned, see, for example Novotný *et al*., 2020). The following year, the RSPB (2013) published a three-year study which concluded that four out of five children in the UK were not adequately connected to nature. Such statistics have prompted the development of the idea that children may be experiencing what Louv (2005) calls 'nature deficit disorder', which he links to a range of contemporary childhood problems such as obesity, ADHD, depression and anxiety.

Whilst not dismissing the issues raised, the term has attracted a number of criticisms, including for example that it medicalises childhood and presents an environmental issue as a deficit in children; it romanticises previous generations' contact with nature; it universalises a white, middle-class perspective based in Louv's own childhood memories; and it creates false binary distinctions of nature and culture (Dickinson, 2013; Kraftl *et al*., 2018; Lester, 2016).

Nonetheless, children are attracted to natural environments that are seen as complex, challenging and exciting and which provide choices and opportunities for exploration (Moore and Wong, 1997; Stine, 1997; Ward, 2018). There is a growing literature on the benefits of contact with nature for children's health, wellbeing and development, reviewed below.

Natural play spaces offer natural elements as play resources, including plants, sand, water, trees, twigs, and so on. The flexibility and diversity of natural spaces invite more complex, varied and longer-lasting play forms (Brussoni *et al*., 2017). The developmental benefits of including natural design features in children's play spaces include increased physical activity and reduced risk of obesity, improved cognition and academic achievement, reduced stress and enhanced protective factors for resilience, improved social and emotional skills and development, improved health and wellbeing (Brussoni *et al*., 2017; Chawla *et al*., 2015; Faber, Taylor and Kuo, 2006; McCurdy *et al*., 2010) as well as being more focused when returning to class (Mårtensson *et al*., 2014) and having a calming effect on children with ADHD (Faber Taylor and Kuo, 2009; Kuo and Faber Taylor, 2004). In addition, greening school grounds can help reduce inequalities of access to green space and the benefits they bring, particularly in terms of socio-economic disadvantage, gender, disability (Bell and Dyment, 2006) and ethnicity (Robison, 2020).

Two systematic reviews of the research on how contact with nature can support children's health and development (Faber Taylor and Kuo, 2006) and more broadly research into the effects of children spending time in nature (Mygind *et al*., 2021) identify a number of methodological weaknesses including, for example, an overreliance on self-reporting with all the biases that can bring, the fact that many of the sites researched were self-selected by research subjects, and other confounding variables. Despite this, they conclude that overall, the studies show that contact with nature can help with children's cognitive, social and emotional development (Faber Taylor and Kuo, 2006); that there are positive associations between time spent in nature and improved socioemotional functioning and development; and that there is consistent evidence for improved aspects of cognition, reduced risk of obesity and overweight (Mygind *et al*., 2021). Mygind *et al*. (2021, p. 23) conclude that 'within the socioecological totality of a child's world, green space may play a role, but sociocultural factors will be decidedly more important'.

Schools offer a good opportunity to increase children's contact with nature (Dowdell *et al*., 2011), and there is a growing international movement to green school grounds (Bell and Dyment, 2006; Dyment and Bell, 2008; Chawla *et al*., 2015). School ground greening focuses mainly on the design, use and culture of school grounds, with a view to improving the quality of children's play and, often, more formal learning experiences. The process transforms the traditional expanses of asphalt and turf into spaces

with 'a diversity of natural and built elements, such as shelters, rock amphitheatres, trees, shrubs, wildflower meadows, ponds, grassy berms and food gardens (Dyment and Bell, 2008, p. 953).

Interventions to green school playgrounds have found a number of benefits, including promoting more active play (Brussoni *et al*., 2017; Dyment and Bell, 2008; Raney *et al*., 2019; van Dijk-Wesselius *et al*., 2018), particularly for girls (Raney *et al*., 2019; van Dijk-Wesselius *et al*., 2018) and children with learning disabilities and less physical competence (Bell and Dyment, 2006). The diversity of the landscape features meant that children engaged in a wide range of physical movements including balancing, jumping, climbing, hiding, and coping with uneven surfaces, building balance, co-ordination and agility (Dyment and Bell, 2008; Raney *et al*., 2019).

Children's play was found to be more imaginative with a greater diversity of play activities (Dyment and Bell, 2008) and staff observed better social and problem-solving skills, focus, self-regulation, creativity and self-confidence, alongside reduced stress, boredom and injury (Brussoni *et al*., 2015), and better attention restoration (van Dijk-Wesselius *et al*., 2018).

Children showed more prosocial and less anti-social behaviour (Brussoni *et al*., 2017; Dyment and Bell, 2008; Raney *et al*., 2019), with fewer physical and verbal conflicts after an initial increase, suggesting it can take some time to adapt to the new environment (Raney *et al*., 2019).

Children expressed a greater appreciation for the playground post-greening (van Dijk-Wesselius *et al*., 2018). The diversity on offer means natural landscapes appeal to a much wider variety of pupil interests, both girls and boys, and support an increased variety of play activities. In addition, natural grounds were found to better accommodate children with a range of physical and intellectual capacities and impairments as well as providing an easily accessible outdoor play space for economically disadvantaged children (Bell and Dyment, 2006).

However, making physical changes to the school grounds may not on its own ensure contact with nature. As suggested earlier, the conditions that support children's play include time, space and permission. In some schools, grassed areas may be out of bounds for children in wet weather (Lester *et al*., 2011; Thomson, 2005). In a large international study carried out by Prisk and Cusworth (2018), eight out of ten school staff said that outdoor play is restricted in bad weather. According to the Met Office,[7] in the United Kingdom, on average, it rains for 156 days year, mostly between October and April, meaning access to fields and green spaces at playtimes can be significantly restricted across the school year. The OPAL approach explicitly supports schools to make all areas accessible in all weathers, for example, through encouraging the use of welly racks and other ways of supporting children to wear suitable clothing and keep the inside school clean (Lester *et al*., 2011). The observation below, carried out in the cold and snowy and even icy months of November and December, showed good support for children's access to the outdoors:

> Children were able to make slides, fall over, and use equipment and materials in fairly novel ways, for example, children jumping over benches to slide on the small slope that led down to the trim trail area, or using the same slope to slide under the bottom rope of the bridge structure element of the trim trail (Lester *et al*., 2011, p. 40).

The movement for greening school grounds extends beyond benefits for children. Although initially championed by educators, more recently planners have become interested in the capacity for green school grounds to help with urban resilience in terms of coping with extreme heat, flooding and other extreme climate-related events (Flax *et al*., 2020). Although each site may be fairly small, they are well distributed across cities and so cumulatively can have an impact on mitigating extreme weather events. Such an initiative sees school grounds as a public asset whose goods can extend beyond the education of pupils, and in cities where planners have embraced the idea, it has included opening up school grounds for community use outside of school hours (Flax *et al*., 2020).

7 https://www.metoffice.gov.uk/research/climate/maps-and-data/uk-climate-averages/u10hb54gm

8. Discussion and key messages

Summary points

8.1 The value of diverse approaches to researching school playtimes.

• The review of literature on playtimes in primary schools has highlighted both the value of good playtimes and the concerns that schools and children have.

• It is important to have diverse approaches to researching playtimes, including quantitative and qualitative approaches.

• Universal and cause-effect headline findings can be useful, and these also need to be balanced by detailed research into the particularities of how children actually play.

8.2 Different and interrelated forms of value

• The intrinsic value of playtimes stems from children's enjoyment of self-organised play.

• Children's self-organised play tends to be researched using ethnographic and creative methods, focusing on the particular rather than the universal.

• Instrumental value of interventions to improve playtimes can be found in children's greater engagement in a range of movements and MVPA; in increased prosocial behaviour and reduction in conflicts and the development of social and emotional skills; better problem-solving skills, self-regulation and self-confidence; reduced stress, boredom and injury.

• Institutional value: schools that have introduced measures to improve playtimes consistently report happier playtimes with fewer incidents, making them easier to supervise; quicker and better settling into class after playtimes; better attention and on-task behaviour in class; and positive parent reactions.

• Children learn better when they are healthy and happy, and playtimes offer an opportunity for both.

• In schools that support a wide range of physical, cultural and social affordances for play, more children engage in a wider variety of play forms, particularly those who are often excluded in more traditional spatial arrangements of playgrounds.

8.3 Conditions for play: time, space and permission

• The literature reviewed here has largely upheld the principle that if children are unable to realise the intrinsic value of playtimes, instrumental and institutional value will be compromised.

• It makes sense for schools to consider how the significant financial, temporal and spatial resources invested in playtimes might be best used to create the conditions for children to play in ways that minimise the concerns and maximise children's enjoyment.

• Three key interrelated and interdependent conditions for play are sufficient time, space and permission.

• Withdrawing playtime as a punishment is counter-productive.

• We recommend schools take time to find out what actually happens in the playground before making changes; children use the space and create special places in ways adults may not be aware of.

• Physical changes to outdoor space can open up possibilities for play, including making unused space available all year round.

• A rich play environment offers diverse opportunities for a range of play forms.

• The concept of affordances for play, both physical and cultural, helps move attention away from single use pieces of equipment and towards broader spatial arrangements that support diverse forms of play.

• Training and mentoring of supervising staff should be embedded in a whole school culture that supports play.

• The greater the range of affordances (physical and social/cultural) for play, the more inclusive the space and so the more children enjoyed playtimes.

• This suggests that working towards sufficient time, space and permission for children to play will support them to realise the intrinsic value of playtimes, thereby making instrumental and institutional value more likely to follow.

This review of literature on playtimes in primary schools has highlighted both the value of good playtimes and the concerns that schools and children have. We offer here some reflections on the literature reviewed and suggest some key messages.

8.1 The value of diverse approaches to researching school playtimes

The evidence presented here stems from a diverse collection of research studies across a range of disciplines and research methodologies. Each study provides a glimpse into what researchers consider worth researching, as well as their understandings of the value of play and of childhood itself, of what can be known, and of the thorny issue of cause and effect. The continuing currency of evidence-based policy and the desire to find out 'what works' (see, for example, Public Health England, 2020) has led to a greater interest in quantitative measurements and positivist approaches to research, including the application of medical research methods, particularly the gold standard of randomised controlled trials, to that of social issues (Edwards *et al*., 2016). These are useful. At the same time, they should be treated with the caution that researchers themselves highlight when they discuss the limitations of their research. We have cited several systematic reviews (eg Brussoni *et al*., 2015; Faber Taylor and Kuo, 2006; Gibson *et al*., 2017; Mygind *et al*., 2021; Parrish *et al*., 2020) that also point out the challenges of interpreting different findings from studies using different interventions and research instruments and with confounding variables. This does not invalidate such research, but does suggest results should be used with caution. In addition, 'what works' narratives are performative: they tend to identify a problem (for example, obesity, sedentary lifestyles, over-protection of children, bullying, lack of contact with nature) and seek and validate interventionist solutions that can address such deficits in children; each study builds on the assumptions and assertions of previous research until the stories told become seen as common sense and difficult to think beyond (Russell *et al*., 2017).

What becomes obscured in this endeavour are both the broader structural and contextual inequalities in children's lives (Edwards *et al*., 2016) and also their sophisticated competence as players (eg Cowan, 2020; Grudgeon, 2014; Marsh and Willett, 2010; Potter and Cowan, 2020). Given this, we would suggest that there is more to researching school playtimes than measuring things, and that there is also a place for qualitative, post-qualitative and more creative forms of research. The diversity of these studies offers multiple ways of knowing about children and their play in the context of school playtimes, and this multiplicity can help to navigate some of the dilemmas and tensions that playtimes generate for children, school staff and policy makers.

8.2 Different and interrelated forms of value

Throughout the review, we have used the value triangle (Beunderman, 2010; Holden, 2006) as a way of navigating the tensions between what children, professionals, policy makers and other stakeholders might value about playtimes at school. When playtimes work well, children are happier and more ready to learn in the classroom. In terms of value, if children can realise the intrinsic value of playtimes, then the instrumental and institutional values will follow (Beunderman, 2010).

The intrinsic value of good playtimes stems from children's enjoyment: the pleasure that play generates creating a greater satisfaction in being alive (Sutton-Smith, 1997, 2017). In playing, children both mimic and mock adult cultures and traditions (Marsh and Willett, 2010), they create worlds where the rules of the real world no longer apply, rendering it either less scary or less boring (Sutton-Smith, 1999). They experience the thrill and vitality of raw primary emotions (fear, shock, disgust, anger, happiness, sadness) within the safety of the knowledge that this is 'just' playing. They can experience a sense of belonging, both in terms of friendships with other children and also to place, although such emotional geographies are complex, dynamic and multi-layered (Johnson, 2013; Kustatscher, 2016). The pleasure of playing motivates children to seek out more play (Lester and Russell, 2008), bringing with it the two other forms of value. These forms of value tend to be researched using ethnographic and creative methods, focusing on the particular rather than the universal.

Instrumental value of interventions to improve playtimes can be found in children's greater engagement in a range of movements and MVPA (Bundy *et al*., 2009; Parrish *et al*., 2020); increased prosocial behaviour and reduction in conflicts (Brussoni *et al*., 2015, 2017; Dyment and Bell, 2008; Raney *et al*., 2019); the development of social and emotional skills (Brussoni *et al*., 2017; Bundy *et al*., 2017; Chawla *et al*., 2015; Faber, Taylor and Kuo, 2006; McCurdy *et al*., 2010); better problem-solving skills, self-regulation and self-confidence; and reduced stress, boredom and injury (Brussoni *et al*., 2015).

In terms of institutional value, schools that have introduced measures to improve playtimes

consistently report happier playtimes with fewer incidents, making them easier to supervise (Bundy *et al*., 2008; Lester *et al*., 2011; McLachlan, 2014; Sterman *et al*., 2020); quicker and better settling into class after playtimes; better attention and on-task behaviour in class (Lester *et al*., 2011; Mårtensson *et al*., 2014; Pellegrini and Bohn, 2005); and positive parent reactions (James, 2012). Children learn better when they are healthy and happy (Bell and Dyment, 2008), and playtimes offer an opportunity for both.

In schools that support a wide range of physical, cultural and social affordances for play, more children engage in a wider variety of play forms, particularly those who are often excluded in more traditional spatial arrangements of playgrounds (Brussoni *et al*., 2017; James, 2012; Lester *et al*., 2011).

8.3 Conditions for play: time, space, permission

The primary focus of schools is the education of children, and there are inevitably tensions between the desire of school staff for educational and developmental outcomes for play and the seemingly purposeless, frenetic and sometimes chaotic self-organised free-range playing of children (Lester *et al*., 2011). Yet the literature reviewed here has largely upheld the principle of the value triangle that if children are unable to realise the intrinsic value of playtimes, instrumental and institutional value will be compromised.

As an extension to the institutional value of good playtimes, it is worth reiterating that schools invest a lot of resources in playtimes, in terms of time (600 playtimes a year, 20-22% of the school day), space (the land value of school outdoor space, not always fully utilised to support children's play in all seasons) and permission (supervision of playtimes costs £750 million a year). Although the majority of children enjoy playtimes, a significant minority do not (Baines and Blatchford, 2019); alongside this there are perennial concerns that schools have over playground conflicts and aggression, exclusion and bullying of children, and issues of risk and safety. It makes sense, therefore, for schools to consider how these resources might be best used to create the conditions for children to play in ways that minimise the concerns and maximise children's enjoyment.

We close this review with reflections on what the literature has shown in terms of schools working towards ensuring children have sufficient time, space and permission to play. All three 'conditions for play' are interdependent and interrelated, and so we address them together. For example, unless children have sufficient time to play, the effects of any changes to the physical and cultural spatial arrangements will be diminished. Withdrawing playtimes as a punishment for poor behaviour is counterproductive (McNamara, 2013; Mulryan-Kyne, 2014; Pellegrini and Bohn, 2005), and children's physical activity is higher when playtimes are longer (Ridgers *et al*., 2010).

Drawing from research by children's folklorists, we would urge schools to be cautious and to take time to find out what actually happens in the playground before making changes to the spatial arrangements of playgrounds and playtimes. It is likely that children will have created spaces that form an important part of their playground geographies, such as the black pole that Armitage (2005) saw in his research:

> a drainpipe that has been used by generations of children as a counting pole for games. Children will appropriate anything and everything in the space and incorporate these often mundane features into their play (Factor, 2004; Thomson, 2007).

Factor (2004, p. 142) draws parallels with Aboriginal song and story lines:

> invisible tracks that trace the history, meaning and use of every significant feature of the environment. Each place has its own story, its own melody, and often its own special importance for a particular family. To an outsider, it is just a landscape of trees, rocks, water.

She coins the term 'play-lines' to acknowledge children's historical and affective relationships with their playgrounds. Adults need to be aware of such spaces and not erase them in the name of playground improvements. This is another argument for a diverse approach to researching school playgrounds, as it is through the attention to detail that the creative and ethnographic methods offer that such practices can be acknowledged and respected.

The physical design of schools, including the outdoor space, reflects their primary purpose as space for education and learning. Teaching practices, educational symbols and materials, codes, protocols for behaviour and so on collectively act to produce the space and to control the movements and actions of children and staff, although there is always the possibility of disturbing these orderings of time and space in playful ways (Russell, 2018; Thomson, 2007; Youndell and Armstrong, 2011).

Physical changes to outdoor space can go a long way towards opening up the range of possibilities for

children to play, including making unused spaces available for playing all year round, and designing what has been termed a 'rich play environment' (Burton *et al*., 2019; Follett, 2017; Hughes, 1996; Play England, 2015). Key elements of a rich play environment can include:

- material richness and physical diversity;
- opportunities for challenge;
- opportunities for movement;
- opportunities to modify the environment and manipulate materials (including loose parts);
- spaces to hide and survey;
- spaces within spaces, networking of spaces;
- seasonality and access to nature;
- stimulation of all the senses;
- opportunities for social interaction and for being alone;
- opportunities for experiencing a range of emotions;
- opportunities for playing with identity.

Follett (2017, p. 123) notes:

> the challenge for adults when creating play spaces is to let go of the idea of creating opportunities where a single type of play will take place, such as a shop or a castle, as these are fixed features whose purpose has been predetermined by adults. What gives much greater value are designed features that are open to adaptation, change and interpretation. This is especially true for school play environments which will be visited every day and so will need to be much more flexible than sites that are visited only occasionally.

Many of the studies reviewed here draw on the idea of affordances (eg Aminpour *et al*., 2020; Bagot *et al*., 2015; Chawla *et al*., 2014; Brussoni *et al*., 2017; Sando and Sandseter, 2020), which allows for thinking in terms of what might be possible in the space. Affordances also encompass the social and cultural possibilities or constraints, which is where the permission element comes in.

Equal consideration needs to be given to the school culture, playground rules and the role of playground supervisors (Armitage, 2009; Baines and Blatchford, 2019; Bundy *et al*., 2009; Follett, 2017; Thomson, 2014). Whilst some of the research studies reviewed show children's competence in navigating school rules and restricted space, and finding opportunities for play (Aminpour *et al*., 2020; Thomson, 2005, 2014), spatial arrangements were limiting for others (Aminpour *et al*., 2020; Cudworth, 2015; McNamara *et al*., 2013; Woolley *et al*., 2006). Studies reviewed here on the introduction of loose parts into school playgrounds often included an element of training and mentoring for supervising staff, based on playwork principles of low intervention (Armitage, 2009; Besse-Patin *et al*., 2017; Lester *et al*., 2011). Staff often found this approach difficult, particularly the low intervention approach to children's risk-taking (Bundy *et al*., 2017; Besse-Patin *et al*., 2017; Spencer *et al*., 2016), suggesting that what is required is more than a couple of training sessions. Support and mentoring helps (Armitage, 2009; Lester *et al*., 2011); however, a whole school approach and the development of a culture of play that is led by the school leadership seems more effective (Lester *et al*., 2011). Baines and Blatchford (2019), having now carried out three surveys into children's social lives at school playtimes (1995, 2006, 2017), also recommend that the supervision of playtimes is treated by school leadership with as much weight as the supervision of the classroom.

As Brussoni *et al*. (2017) found, the greater the range of affordances (physical and social/cultural) for play, the more inclusive the space and so the more children enjoyed playtimes. This suggests that working towards sufficient time, space and permission for children to play will support them to realise the intrinsic value of playtimes, thereby making instrumental and institutional value more likely to follow.

9. Resources, support and advocacy organisations

The alphabetical list below is of some of the advocacy organisations supporting children's play. They have been included because the work they do is relevant and because their websites offer useful resources and guidance.

www.globalrecessalliance.org

A newly formed group of scholars, health professionals and education leaders campaigning for quality recess.

www.internationalschoolgrounds.org

A global network of organisations and professionals working to enrich children's learning and play by improving the way school grounds are designed and used.

www.ipaworld.org

An international NGO whose purpose is to protect, preserve and promote the child's right to play as a fundamental human right. Provides a forum for exchange and action.

www.meynellgames.wixsite.com/ip-dip

A free emailed magazine for professionals working in play and playwork.

www.ltl.org.uk

A UK-based charity dedicated to enhancing outdoor learning and play for children.

www.outdoorplayandlearning.org.uk

A mentor supported school programme to sustainably improve the quality of playtimes in schools. UK-based with global coverage.

www.outdoorclassroomday.com

A global campaign to inspire and celebrate outdoor learning and play. The campaign days act as a catalyst for more time outdoors every day.

www.outdoorplaycanada.ca/resources

A network of advocates, practitioners, researchers and organisations working together to promote, protect, and preserve access to play in nature and the outdoors. Useful resources.

www.playengland.org.uk/resource_types/schools

The national organisation for children's play in England. Campaigns for all children and young people to have freedom and space to play throughout childhood.

www.playfriendlyschools.eu

A European Erasmus+ funded project to support schools to become more play-friendly. Has produced Quality Criteria, a training course and handbook.

www.playscotland.org

Play Scotland is the lead organisation for the development and promotion of children and young people's play in Scotland, including in schools.

www.playwales.org.uk/eng/schools

The national charity for children's play in Wales. Works to raise awareness of children and young people's need and right to play. Has a section on play in schools.

www.playboard.org/what-we-do/play-in-schools

The national organisation leading the play agenda in Northern Ireland. Offers a Positive Playgrounds programme for schools and the 'TOPS' Quality Assurance Programme and Award for Outdoor Play.

www.playpods.co.uk

Introduces loose parts into schools and early years settings to transform playtimes. Provides scrap resources and storage as well as training and mentoring.

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