Why Play is Important in Oxfordshire

A report by Oxfordshire Play Association, the University of Oxford and Oxford Brookes University



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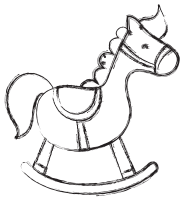
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Executive Summary

This report brings together expertise from the Oxfordshire Play Association (OPA), the University of Oxford and Oxford Brookes University, to address the question 'Why is Play Important in Oxfordshire?' The report summarises evidence from a wide range of sources, which demonstrate that **play has a critical role in children's development and wellbeing, as well as in the wellbeing of adults, families and communities.**

Physical and mental wellbeing

In recent years, the possibilities for readily available play opportunities have been decreasing, due to changing societal circumstances and an increased sense of insecurity for children in public places. However, as this report illustrates, considerable evidence supports the view that play has critical impacts on physical and mental wellbeing, and should be strongly encouraged. Being active in play helps children both physically and emotionally, as well as helping to build resilience, by boosting confidence, creativity and problem-solving skills. Outdoor play has a direct inverse relationship with BMI and obesity. Playful learning also has an important role to play in promoting healthy child development and emotional wellbeing.

Public health benefits

Beyond physical and mental wellbeing benefits of play, there are also wider public health benefits, which contribute to building communities and wider relationship building. Play Streets (such as the Playing Out programme) through which roads are closed for play, has been shown to be beneficial not only to the children playing, but also in addressing adult loneliness, through the promotion of community connection, neighbourliness, trust and a sense of belonging.

Nature play

The report also demonstrates the importance of 'nature play', that is, activities in the natural environment that encourage children to be active and think actively in nature. Nature play has been shown to impact both physical and mental health positively, with evidence of the restorative power of the outdoors for children under stress. Research has also demonstrated that children are happier when taking lessons outdoors and after playing outside. The recent experience of the pandemic also shows the positive mental health impacts for those children who increased their connection to nature during the first lockdown. There are also strong links between outdoor play and children's cognitive development. Furthermore, evidence suggests that outdoor play enhances children's respect for nature, their interest in sustainability and the promotion of pro-environmental behaviour.

The built environment and play

There are also opportunities for outdoor play in the built environment, where green spaces within school grounds or integrated into residential areas, offer the benefits of nature play in a built-up setting. This highlights the importance of urban planning policies to promote diverse and high-quality green spaces integrated within the built environment. There are also more playful ways in which the urban cityscape can promote play. 'Playful Learning Landscapes' is an initiative that combines learning, placemaking and community cohesion into public spaces, focusing on specially commissioned play initiatives and activities to encourage playful learning.

Intergenerational play

The value of intergenerational play is being increasingly recognised, important both for younger age groups as well as older generations. Such interactions positively influence children's language, reading and social skills and reduce ageism. Older age groups experience less loneliness, delays in mental decline and other related benefits. Co-locating nurseries with nursing homes has been shown to be highly beneficially for the wellbeing of both generations.

Play and education

Play has a key role in children's development in terms of language, emotional intelligence and regulation, creativity, and intellectual reasoning. Unstructured play allows for creativity and encourages imaginative play, leading to a sense of autonomy and the development of social and communication skills. Playing in groups can include situations where children need to negotiate, take turns, resolve conflicts and reflect on equality, justice and inclusion. It can also include identifying and managing risk, leading to the development of self-regulation strategies that can support decision-making in later life.

Relevance to Oxfordshire

As 'Play' is not a statutory requirement, it has seen drastic cuts in staff, resources and the importance of play across Oxfordshire since the 'age of austerity' in 2008. The provision of play opportunities has been neglected right across the County, both in urban and rural areas, despite research clearly showing that play has a positive impact on many aspects of children's lives. As the evidence reviewed in this report demonstrates, the impacts of play are manifest in the increased physical and mental wellbeing of both children and adults, as well as in the multiple benefits related to education, behaviour, community cohesion, developmental skills and intergenerational links. **The evidence, therefore, suggests that there is a strong case for supporting play, through resources to encourage both structured and unstructured play opportunities, at home, in educational settings, in nature and within the built environment.**

1. Introduction

This report brings together expertise from the Oxfordshire Play Association (OPA), the University of Oxford and Oxford Brookes University, to address the question 'Why is Play Important in Oxfordshire?'

The report fills a gap identified by Oxfordshire Play Association, that is, a lack of an evidence base to support the case for the importance of play in Oxfordshire. As 'Play' is not a statutory requirement, it has seen drastic cuts in staff and resources since the 'age of austerity' in 2008. The provision of play opportunities has been neglected across the county, both in urban and rural areas, to the detriment of children and young people.

Although the County is perceived as affluent and has been said to be one of the best places to live in the UK for quality of life (Grubb, 2019), data collected by the Joint Strategic Needs Assessment (JSNA, 2021) refute this perception and highlight the pockets of deprivation that exist. For example, in 2019, Oxfordshire had one neighbourhood (Lower Super Output Area - LSOA) that was ranked within the 10% most deprived areas in the UK. Another 16 areas, including neighbourhoods of Oxford City, Banbury and Abingdon were ranked in the 20% most deprived areas nationally (see Figure 1). Furthermore, after removing housing costs, 1 in 5 children in Oxfordshire live in poverty, and within Oxford City this rate increases to 1 in 4 children.

These data demonstrate the importance of focusing on the quality of life for children in Oxfordshire, including their development and wellbeing.

The current report aims to highlight the benefits of one of the most available tools that could address children's development and wellbeing, now and for future generations: Play. The report reviews evidence from influential advocates for play, as well as research findings on the importance of play under eight headings, each focusing on distinct areas, covering a broad range of topics on why play should be prioritised and resourced, including its positive effects on (1) children's development, learning, wellbeing and social skills; (2) families, and (3) communities.

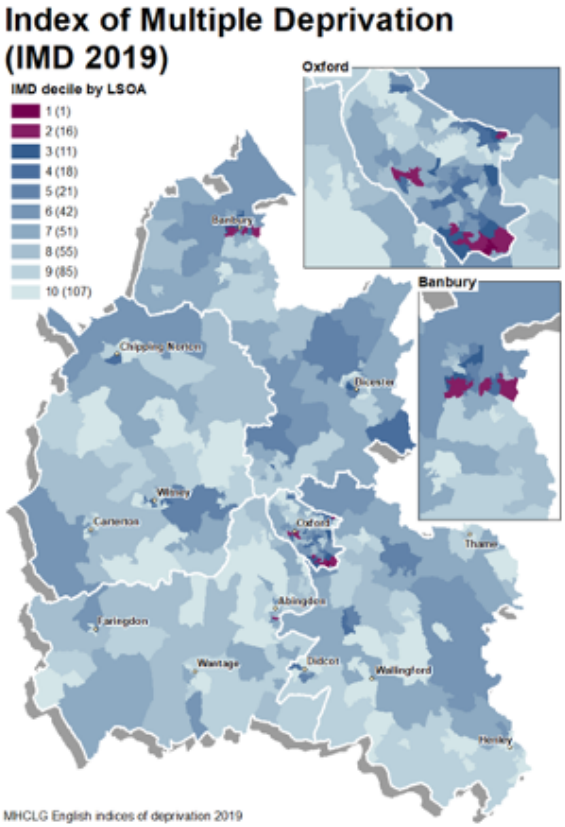


Figure 1. Index of Multiple Deprivation (IMD 2019); Source: JSNA (2021)

2. Who says 'Play is Important'?

Introduction

Play has been declared important at all levels of government and governance, from the highest-level international institutions, through national governments down to local authority level. However, results of a survey summarised in the Guardian revealed that three-quarters of UK children spend less time outdoors than prison inmates (Carrington, 2016). This drastic decrease in children's playtime draws attention to highlighting the importance of play. This section will summarise the evidence from government documents as well as from research on the importance of play.

United Nations Convention on the Rights of the Child (UNCRC)

Every child has the right to relax and play as "*play is so important to optimal child development that it has been recognized by the United Nations High Commission for Human Rights as a right of every child*" (Human Rights Office of the High Commissioner, 1989 as cited in Ginsburg, 2007, p.182). The UNCRC also states that children and young people should be able to take part freely in cultural activities, just like adults. The government should make sure it's easy for them to do this whether or not they have a disability.

UK Chief Medical Officers

The UK government's "Physical Activity Guidelines" (Department of Health and Social Care, 2019) report that the UK was among the first nations in the world to set out the evidence for how much and what kinds of physical activity we need, to keep ourselves healthy. Since then, the evidence has become more compelling, and the message is clear:

"*If physical activity were a drug, we would refer to it as a miracle cure, due to the great many illnesses it can prevent and help treat.*" (UK Chief Medical Officers, 2019, p. 3).

Physical activity is not only beneficial for children's health, but it also gives people the opportunity to enjoy shared activities, which in turn, contributes to building stronger communities and supports the economy to grow (Department of Health and Social Care, 2019).



Health and Safety Executive

The Health and Safety Executive (2012) extends on the points raised by the UK Chief Medical Officers' statements by highlighting the importance of play for children's well-being and development. They also argue that when planning and providing play opportunities, the goal is to weigh up the risks and benefits, not the elimination of all risks.

"*Those providing play opportunities should focus on controlling the real risks while securing or increasing the benefits – not on the paperwork. (...) Accidents and mistakes happen during play – but fear of litigation and prosecution has been blown out of proportion.*" (Health and Safety Executive, 2012).

The Government's National Play Strategy

In 2008, the UK Government produced a National Play Strategy, which sets out a vision that endorses the importance of play and outlines how it can be achieved, in collaboration with local delivery partners.

The Strategy argues that fun and exciting opportunities to play are key components of a happy, healthy and enjoyable childhood. Since play is vital to children's physical, emotional, social and educational development, quality outdoor play opportunities are key. The Strategy also states that these outdoor opportunities are not only beneficial for children, but also for families and for communities.





The Strategy's suggestions for optimal and safe play opportunities are the following:

- In every residential area there are a variety of supervised and unsupervised places for play, free of charge;
- Local neighbourhoods are, and feel like, safe, interesting places to play;
- Routes to children's play space are safe and accessible for all children and young people;
- Parks and open spaces are attractive and welcoming to children and young people, and are well maintained and well used;
- Children and young people have a clear stake in public space and their play is accepted by their neighbours;
- Children and young people play in a way that respects other people and property;
- Children and young people and their families take an active role in the development of local play spaces;
- Play spaces are attractive, welcoming, engaging and accessible for all local children and young people, including disabled children, and children from minority groups in the community.

Source: HM Government - The National Play Strategy - A commitment from The Children's Plan (2008, p.5)





A number of strategies have been developed within Oxfordshire which also support the view that play is important.

Oxfordshire Health & Wellbeing Board

Oxfordshire's Early Years 'Joint Strategic Needs Assessment' (JSNA) highlights the level of need for play local to Oxfordshire, recognising that how children develop in their early years is key to health and wellbeing in later life.

The Children's Trust is part of Oxfordshire's Health and Wellbeing Board, and brings together the public, private and voluntary sectors to improve outcomes for all children and young people who live in the county.

The Board empathises four areas to help children and young people lead a healthier and happier life: be successful / be healthy / be safe / be supported.

Oxfordshire County Council

The County Council has drawn up a "Children and Young People's Plan" for 2018-2023 to set the strategic direction and priorities for services for children, young people and families in Oxfordshire. It highlights the vision for "*Oxfordshire to be a great place to grow up and for children and young people to have the opportunity to become everything they want to be*" (Oxfordshire Council County, 2018, p. 1). In particular, the plan aims to "*enable children and young people to access a range of positive activities and opportunities, especially those who are vulnerable or who have particular needs*" (Oxfordshire Council County, 2018, p. 8).

Within Oxfordshire, the five district councils also have their own strategies and plans related to children and young people. Oxford City Council has drawn up a "Strategy for Children & Young People 2018-2022" (n.d.), which aims to enable the Council to achieve population level impact on three key outcomes for children and young people: healthy and safe; connected; and productive.

Cherwell District Council

Cherwell District Council has also developed a "Play Strategy" (n.d.), highlighting 12 themes that would help with providing more play opportunities for children. These include providing better access for children to play via open green spaces, playgrounds or programmes; bringing generations together to build relationships and a stronger community; including everyone regardless of their background or disability; providing accessible play in cities; making play easier in rural areas; and the introduction of new ideas in schools, childcare and extended schools.



So far, international, national and local guidelines have highlighted the importance of play. The following section will summarize research findings on the importance of play.

Research on the Importance of Play



Dr. David Whitebread, a researcher on play in education at the University of Cambridge, argues that play should not be contrasted with 'work' but should be seen as one of the highest achievements of humankind (Whitebread, 2012). Whitebread further highlights that play is vital for children's and adults' intellectual achievement and emotional well-being.



In 2018, the American Academy of Pediatrics further strengthened and extended Whitebread's statements by saying that "*play is fundamentally important for learning 21st-century skills, such as problem-solving, collaboration, and creativity, which require the executive functioning skills that are critical for adult success (Yogman et al., 2018)*" (Prisk & Cusworth, 2018, p. 30).

These claims are backed up by academic research into the importance of play.



Yogman et al. (2018) demonstrate the valuable benefits of play in promoting social-emotional, cognitive, language and self-regulation skills. These enhance brain structure and function, and promote executive function, that is, the process of learning, rather than the content.

An additional argument comes from Milteer et al. (2012) who states that play helps children develop resilience, as they learn to cooperate, overcome challenges and negotiate with others. However, they also demonstrate that children who live in poverty often face socioeconomic obstacles that impede their right to have playtime, impacting on their healthy social-emotional development.



Nijhof et al. (2018) go beyond Milteer's or Yogman's research and present evidence of the importance of play for children with a chronic or life-threatening disease. They show that stimulating play behaviour enhances the adaptability of a child to a stressful condition, strengthening the basis for their future health.



A further recent review (Gill, 2014) shows that children's play is of fundamental importance to the lives of children, not only in terms of their development and wellbeing but also their enjoyment of childhood.

Play also offers an ideal opportunity for parents to engage fully with their children (Ginsburg, 2007). However, despite the benefits derived from play for both children and parents, time for free play has been markedly reduced for some children. Ginsburg (2007) highlights the factors which have reduced play, including a hurried lifestyle, changes in family structure, and increased attention to schoolwork and enrichment activities at the expense of recess or free child-centred play. Actions by families, school systems and communities can contribute to protecting free play, in order to create balance in children's lives as they develop through childhood.

Conclusion

It is clear that play has received considerable attention locally, nationally and internationally. The national and international evidence, and local work that has been carried out so far suggests that play is a crucial contributor to children's development, and well-being both in childhood and adulthood. The specific benefits of play opportunities will be addressed in the folllowing section.

3. Physical and Mental Wellbeing

Introduction

Play is more than a rite of passage for children; it also has clear impacts on mental and physical well-being. There is a considerable body of advice and guidance regarding the importance of play for children from a health and wellbeing perspective.

Promoting Happiness, Boosting Confidence, and Helping to Cope with Stress

Play Scotland, in their publication focusing on supporting play in the community, states that "*Play builds health and wellbeing – being active through play helps children physically and emotionally, contributing to their health and happiness*" and also "*Play builds resilience – playing boosts children's confidence, creativity, problem-solving skills and perseverance, enabling them to cope with stress and challenges throughout life*." (Play Scotland, n.d., p. 4).

Furthermore, Play Wales states that play is key in ensuring positive physical and mental health outcomes in children. Play enables children to develop resilience and flexibility which contributes to physical and emotional wellbeing (Play Wales, 2015). Similarly, a report by the Department of Health and Social Care in 2019 states that there are clear health-related benefits to increasing levels of physical activity in children (Department of Health and Social Care, 2019).

These statements, reflected in different sources, are based upon scientific studies which have demonstrated the positive impact that play can have on a child's physical and mental wellbeing.



Brain and Social Development

We can also see statements such as "*Recent discoveries in neuroscience show that the benefits of active play go well beyond physical development, and have a positive impact on brain development too*" (Mitranic, 2019) and "*play isn't a frivolous activity, but a crucial one for kids' well-being. Playgrounds, either in schools or community parks, can be the stage for encouraging kids to take the steps toward a healthy, well-balanced life, including one with better mental health, improved cognitive function and well-rounded social relationships*" (Miracle, n.d).

Positive Impacts of Play Streets

A tangible example comes from D'Haese et al. (2015) who demonstrated that children who live near 'play streets' show significant increases in their moderate to vigorous physical activity and significant decreases in sedentary behaviour compared to children who live further away from the 'play street'. In this study a play street is one which is reserved for children's safe play for a specific period during school holidays.

Creating a safe play space near the home's of urban children can increase physical activity and decrease sedentary time. This finding was supported by Ward et al. (2016) who show that exposure to greenspaces was associated with an increase in physical activity and also emotional wellbeing.

Outdoor Play

The importance of outdoor play can clearly be seen even at an early age with Ansari et al. (2016) demonstrating a clear relationship between the number of minutes pre-schoolers spent playing outdoors and their Body Mass Index (BMI). The more that pre-schoolers played outside, the greater the decrease seen in their BMI and the less likely they were to be obese. These findings are confirmed by those of Veitch et al. (2006) who note that time spent outdoors is one of the best predictors of children's physical activity. They go on to argue that active free-play, which takes place outdoors, is the most important contributor to physical activity.



From "Let Them Play" (2012) by Jeff A Johnson and Denita Dinger

The Type of Activity Matters

Although one might argue from these studies that it is physical activity rather than play which makes a difference to physical wellbeing, but it does not seem to be that simple. Howard et al. (2012) considered whether a child's perception of the purpose of an activity mattered in terms of the impact it had on their physical and mental wellbeing. Interestingly they gave children the same activity but that activity was sometimes tagged as 'like play' and sometimes 'not like play'. Those children who took part in the 'like play' activity showed a greater benefit to emotional wellbeing than those who took part in the 'not like play' activity. Therefore, providing physical activity opportunities to children might boost physical health, but might not have the same impact on mental wellbeing as opportunities for play can provide.

Building Relationships and Resilience

Yongman et al. (2018) also suggested mechanisms for the importance of play stating that play can provide children with much needed physical activity but that it also provides children with the opportunity to build relationships and can help to build resilience. The mutual joy and shared communication and attunement that parents and children can experience during play regulate the body's stress response.

This clinical report by Yongman et al. aims to provide paediatricians with the information they need to emphasise the importance of playful learning in the promotion of healthy child development. In their article, Gray (2011) states that play is the primary way by which children learn to regulate their emotions and experience joy, both of which are vital to long term positive mental health outcomes. This assertion is supported by Storli et al. (2019) who found a significant positive correlation between children's play and their overall wellbeing.

Conclusion

The evidence suggests that play positively contributes to children's physical and mental wellbeing, which then influences their wellbeing later in adulthood. In addition to these crucial factors for a healthy and well-balanced life, play also enhances brain development and helps children learn social skills. These skills are vital in later years of life; from being able to carve successful career pathways to maintaining relationships. Although this section reviewed how play enhances physical and mental wellbeing, the next section will expand on this and highlight how promoting play in children positively affects public health.



4. Public Health

Introduction

Promoting play in children can have clear impacts on wider public health, as reported by governments and charitable organisations. For example, a report by the Department of Health and Social Care (2019) clearly states the benefits of physical activity on public health. Small changes can really help to promote play in children. A good example of this comes from Play Scotland. They report a case study focusing on Dundee's Play Framework where they opened school grounds for public use, in areas where there was a lack of space for children to play safely. Parents and children reported overwhelmingly positive experiences: "*Every parent who indicated that their child uses the playground outside school hours also indicated that their child has asked to go out and play more since the school playground has opened*." (Play Scotland, n.d, p. 6).

The research supporting the assertion that play has a positive impact on physical and mental health is detailed elsewhere. However, the public health impact of play is greater than just influencing the health of the player. The wider benefits which impact on building communities and interpersonal relationships are detailed in this section.

Building Communities

"*Constructing the playground isn't simply about providing a place to play for kids. It is about the rallying of a community behind a common goal that improves and enhances that community.*" (Calvert, n.d.)

Once again, small policy changes can really help to promote play while also impacting community growth. A really good example comes from play streets, where roads are closed for a period of time throughout the day to allow safe play. A study by Professor Alison Stenning in conjunction with Playing Out reports the effectiveness of play streets in reducing loneliness in adults which, in turn, has a positive impact on health and wellbeing. Playing out sessions benefited both children and adults with over 70% stating their children had formed new connections and friendships through playing out and 89% agreeing they knew more people on their street as a result of their children playing out (Playing out, 2022). "*Playing out is not just about play and not just for children. It promotes an increase in neighbourliness, a sense of belonging, and safer, friendlier streets*." (Newcastle University, 2020).



"*This research has shown that resident-led temporary play streets can play a role in helping to alleviate loneliness. This, along with many other social and community benefits, suggests that there's a strong case for more support from government and local authorities to ensure that playing out is something that everyone in any community can take part in*."
(Newcastle University, 2020)

Comments on this project really bring home the wide-ranging public health benefits of creating spaces for children to play on their streets. The playing out website quotes the Avon and Somerset Police saying: *"Crime and anti-social behaviour will not thrive in strong communities. The benefits of playing out sessions go way beyond the fun the children have. It is the community coming together to achieve something they can see and hear that really makes the difference. Getting to know each other, understand each other, trust each other and develop a sense of community achieves much more to reduce crime and anti-social behaviour than patrolling police officers can."*

Interpersonal Relationships

A child develops many interpersonal relationships throughout their childhood and the quality of those relationships can inform the rest of their lives. Once again, play has been shown to be key in teaching children to work in groups so that they learn to share and to resolve conflicts (Iannelli, 2021), a skill which is vital in adulthood. In their blog, Homan (2016) goes on to reinforce the idea of play helping children to learn how to share, negotiate and take turns, but also how it can help with communication and language development. This idea of developing interpersonal relationships through play is reinforced by research from Yongman (2018) which promotes the importance of play to strengthen child-parent relationships. This is further supported by work from Ginsburg (2007). Evidence for the reverse shows that children who predominately play indoors have a "*reduced ability to relate to other children and adults..... and a higher likelihood of personal isolation*" (Coyle, 2010 p. 5).



How do We Provide More Opportunities?

Research has also provided guidelines for the creation of spaces for play and has highlighted the importance of these spaces being inclusive and supportive of all children (Herrington et al., 2015). These guidelines are designed to help to develop spaces which promote more diverse play. This evidence cites seven factors which are important in the creation of space, which target physical (Connectivity, Challenge), cognitive (Challenge) and emotional (Connectivity & Change) development.

It is clear that creating a safe play space near urban children's home by the Play Street intervention is effective in increasing children's physical activity and decreasing their sedentary time. D'Haese et al.'s (2015) study is really important within an Oxfordshire context. Oxfordshire has already implemented a number of Low Traffic Neighbourhoods, going one step further could designate these as 'play streets' and also highlight other areas which could allow safe play for children without the need for parents to take their children somewhere to play. This has the added benefit of strengthening communities and forging neighbourhood relationships.





Conclusion

The opportunity to build and be part of a strong and supportive community also promotes interpersonal relationships, which are at the heart of public health and wellbeing. Play clearly supports building communities and enables children to develop key skills that inform their lives not only in childhood, but in adulthood as well. This section clearly highlighted the contribution of play to building communities for better public health. It will be followed by a review of research on how play promotes building stronger communities.

5. How Can Play Build Stronger Communities?

Introduction

As the organisation "Playful Wales" states (2019): *"There was a time when it was widely accepted that young children would go out and play in their local communities with friends and siblings. Children were seen as skilled enough to negotiate the outside world and play out and about in their neighbourhood freely. Unfortunately, over time, the age that children have been given this freedom has increased."* It has been shown that over time, readily available play opportunities have been decreasing, resulting in young children being unable to participate in free, outdoor play due to the change of circumstances.



Professor Angie Page (2017, as cited in Playing Out, n.d.) interviewed residents who 'played out' and received highly positive experiences: "*Playing out has really helped bridge the generation gap. It's been a very positive experience*." Page (2017) further stated that "*Play streets allow residents to make connections with their local community in a low-pressure environment – these connections support everyday contact and friendships between adults and children that lead to the exchange of help and support. As the sessions are usually monthly, this regularity enables people to build up relationships with each other over time and form closer ties with their neighbours*". Furthermore, Stenning (2020) discovered that "*playing out sessions were beneficial for both children and adults in tackling loneliness, with over 70% of research participants stating their children had formed new connections and friendships through playing out*". Overall, these new connections enable residents to get to know their neighbours and their situations, allowing communities to become more inclusive and accessible.

More Play Streets; More Play

Extensive research suggests that having a safe environment that enables playing out – or street play – leads to increased community connection, belonging, trust and friendship between neighbours of all ages and backgrounds.





Safe Environments

Playful Wales (2019) highlighted the importance of space, time and permission to play as the key conditions that support play. However, due to the significant increase in road traffic, these conditions cannot always be met. Playful Wales suggests the occasional closure of side streets on a regular basis to provide the key play conditions enabling children and residents to play and connect. Research further supports these points. According to Graham and Burghardt (2010), safe environments are the best way to participate in social play. This form of play offers opportunities for complex interpersonal interactions, allows learning and the exploration of physical and personality strengths and weaknesses (Graham & Burghardt, 2010). The development of social skills as a result of outdoor community play has been backed up by Bundy et al.'s (2017) research. They assessed an intervention – providing outdoor play opportunities during recess time – for increasing children's physical activity, play, social acceptance and social skills. Children who were in the intervention group showed increased physical activity and decreased sedentary time.



Conclusion

Street play is clearly a key contributor to establishing stronger communities. The quotes from residents demonstrate that having Play Streets allows children to play outdoors and everyone to connect with their neighbours. Beyond connecting with others, Play Streets reduce loneliness, increases interpersonal relationships and enables people to make new connections. In sum, play is crucial for building stronger communities, and a better and more inclusive community is the foundation of the physical and mental wellbeing of neighbourhoods. Finally, the reduction of traffic, such as the introduction of the occasional road closure on a regular basis is not only key for creating Play streets, but also for facilitating children's awareness of the natural environment. In the following section, nature play and research on how it promotes appreciation for nature and sustainable behaviour will be discussed.





6. Nature and Environment

Introduction

Previous sections have illustrated the importance of play generally for both physical and mental health, as well as for other benefits such as building communities. This section demonstrates the importance of play specifically in an outdoor natural setting, and the key role that 'nature play' has in child development. 'Nature play' refers to activities in the natural environment that encourage children to be active and think actively in nature. It involves unstructured, outdoor play in an unstructured safe space, with natural materials. This section highlights the importance of nature play for physical and mental health, for learning, as well as other benefits related to a connection with the natural world.

Importance of Nature Play

Physical health

Playing outdoors has been shown to be critical for physical health. Ward et al. (2016) show that time spent by children in greenspace increases overall physical activity through active play, while Prisk and Cusworth (2018) demonstrate that playing outdoors is essential for many aspects of physical health. Outdoor playing is one of the easiest ways to keep children physically active and fit. It has also been shown that children are more likely to self-sustain physical activity when playing outdoors compared to indoors (Herrington & Brussoni, 2015, as cited in Prisk & Cusworth, 2018).

Furthermore, playing outdoors all year round has been shown to improve children's immune systems, with students in an 'Outdoors in All Weather' programme reporting 80% fewer infectious diseases such as colds and sore throats (Sobel, 2004, as cited in Prisk & Cusworth, 2018).



Mental health

There are well-established positive links between nature and mental health, with evidence of benefits for wider mental well-being. These benefits are also noted in relation to a play setting in nature. A recent study in England highlighted the restorative power of the outdoors for children from deprived and vulnerable families who were under stress, highlighting the beneficial effects of exposure to peace and quiet in nature (McCree et al., 2018). Playing in nature has also been found to elevate attention performance in the general population and thus contributes to good mental health (Faber Taylor & Kuo, 2009).

A survey for the Outdoor Classroom Day in 2017 demonstrated how children are happier while taking lessons outdoors, and after playing outside (Prisk & Cusworth, 2018). Happiness in childhood feeds into wellbeing more generally, and health in later life. On the other hand, children who do not play outside regularly lead less active lifestyles and are at higher risk of developing boredom and loneliness (Louv, 2005).

Research is also emerging about the importance of nature play for children's mental health during the Covid-19 lockdowns. Friedman et al. (2021) have found that during the first lockdown, behavioural and emotional problems were lower in those children who increased their connection to nature during the pandemic. This was in comparison to those whose connection to nature stayed the same or decreased, regardless of socio-economic status. These recent results, drawing on the experience of the pandemic, suggest that connection to nature can be a low-cost approach to support the mental health of children, both at home and at school.



Educational outcomes

There are strong links between outdoors play and children's cognitive development. Research suggests that being in nature improves our focus and ability to concentrate (Ackerman, 2022; Ohly, 2016). Children who spend significant time outdoors in preschool score better on standardised tests for executive function, attention and short-term memory than children who have fewer outdoor hours in preschool. The positive benefits also continue into primary education, with those children who had more outdoor time during preschool, also scoring better on standardised testing once they have moved into primary education (Ulset et al., 2017 as cited in Prisk & Cusworth, 2018).



A study by the National Outdoor Federation (Coyle, 2010) also reinforced these findings. They explored the role of outdoor education and outdoor school time in creating high performance students. The study examined 'Forest Kindergartens', mainly located in Scandinavia, Austria, Germany and Scotland, where children learn outside all year. The report found that children perform at above average levels on knowledge and skills tests in maths, science, reading and social studies. They also had increased motivation and enthusiasm for learning.

Research also shows that when the outdoors environment is used as a learning tool, teachers note increased productivity among pupils, and engagement with learning (Waite et al., 2016). Others have noted that playing in nature allows children to experiment with natural materials, contributing to growth in resilience, self-confidence and creativity (Ives et al., 2018). Research has found that spontaneous playing in nature can also be a valuable educational experience (Skar et al., 2016), meaning that children can learn about nature and the environment while playing with natural materials.



Communication and social development

Research suggests that children experience greater freedom to express themselves when outdoors. According to Frost, children use more complicated language outdoors than they do indoors (Frost, 2004). Others have found that children are less inhibited and more assertive outdoors (McClintic & Petty, 2015).

Nature Play and Attitudes to the Environment

Appreciation of nature

Beyond the benefits related to health and education, there are also wider advantages of encouraging children to play in nature (Kemple et al., 2016). As Gill (2005) notes, "den-building, bug-hunting and pond-dipping make visible the intensity of children's relationship with nature". Children are closely attuned to the natural world, bringing richness to the play opportunities in nature that cannot be attained through indoor play.



Environmentally responsible behaviour

A growing body of research illustrates how reconnecting people with nature can contribute to addressing the global environmental crisis. Ives et al. (2018) argue that actions to reconnect people with nature can help transform society towards sustainability. These findings, at a general societal level, are also supported in relation to nature play for children and young people.

For example, the survey for the Outdoor Classroom Day 2017 showed that children participating in outdoor play are more connected to the natural environment, have a deeper respect for nature, and have a higher interest in issues related to sustainability (Prisk & Cusworth, 2018). Hoover (2020) found that appreciative childhood outdoor play increased the likelihood of feeling connected to nature and pro-environmental behaviour. Similarly, Křepelková (2020) found that emotional bonding with nature can lead to pro-environmental behaviour, which is also backed up by Ives et al.'s (2018) theory and Andrejewski's (2011) research findings. Collado and Evans (2019) highlight the role of 'outcome expectancy', as a moderator between children's contact with nature and their environmental behaviour. Outcome expectancy refers to one's evaluation of whether an action can be effective in attaining a goal.

This links to the development of the "eco-psychological self", that is, the "extent to which individuals identify with nature" (St John & MacDonald, 2007, p. 48). Nature play in early years helps to nurture an effective connection with the natural world and provides a crucial foundation for developing environmental awareness and the need to protect nature. Vaske and Kobrin (2001) demonstrate that encouraging an individual's connection to a natural setting facilitates the development of general environmentally responsible behaviour.

Environmental awareness can also be encouraged by play initiatives such as 'Playing Out' (Ferguson, 2019) which, while not explicitly linked to nature, are often motivated by concerns to reduce car dominance in streets, with the triple motivation of health (reducing air pollution), wellbeing (through play), and climate change (reducing greenhouse gas emissions).

Nature Play within the Built Environment

Opportunities for nature play within the built environment can be increased based on the way nature is integrated into urban areas. Access to green outdoor spaces within school grounds gives children a spontaneous opportunity to play in nature, gaining the benefits of outdoor play (Stadler-Altmann, 2021). Green spaces integrated within residential areas and directly in housing developments, also increase this opportunity (Sazali et al., 2021). This highlights the importance of planning policies for promoting diverse and high-quality nature, integrated within the built environment.



Examples of Approaches to Nature Play

Although the UK lags behind other European countries in its approach to nature play, some areas are taking initiatives to support children playing outdoors. For example, in Scotland, Stirling Council created natural play spaces across the authority including 'muddy play' areas, and in Newcastle, residents organised a 'den day' in a local park to introduce children to the wonders of shelter building. These initiatives take their lead from cities such as Freiberg and Copenhagen, where nature play spaces are commonly integrated into public realm and urban parks (Gill, 2005).

Conclusion

Overall, this section highlighted a number of key research papers and their findings to demonstrate the importance of outdoor play. It is clear that nature play has numerous benefits on children's physical and mental well-being as well as on their learning and development. Although this section has mentioned how and why the built environment should implement more green spaces, the next section will focus on play habitat in the city and how urban planning policies and built environmental professionals can provide more play opportunities for children's benefit.





"No-one will protect what they don't care about and no-one will care about what they have never experienced."

David Attenborough (as quoted in Prisk & Cusworth, 2018, p. 4)



7. Planning and Play Habitat

Introduction

Children spend just 20% of their waking hours in school. There is a strong argument therefore, for concentrating on the "other 80%" of their time, aiming to maximise children's development in settings outside school. Play in the home and in nature settings have been addressed in other sections of this report. Here we focus on play in the city, exploring how urban planning policies and built environment professionals more generally can enhance play opportunities for children's benefit.

The Built Environment and Play

The built environment presents a key play and learning opportunity for children. But in many cases, local authorities and built environment professionals such as urban planners and housing developers, fail to take into account the potential impact of their work on children, and specifically, their role in encouraging learning through play in the built environment. There is little recognition of the importance of designing whole neighbourhoods that encourage children's free, unsupervised play (Real Play Coalition, 2020).

Although play is typically perceived as an activity focused in playgrounds, there is less understanding of the role of the whole built environment in offering critical play and learning opportunities for children and young people. Examples of different types of play spaces include playful landscaping, planting and community art installations in green spaces, that can stimulate play opportunities. This combination of both formal and informal play areas promotes a greater sense of place, expands play horizons, and generates positive impacts in terms of educational, health and wellbeing, and social interaction benefits (Real Play Coalition, 2020). The 'Urban Play Framework' is an approach to understanding the play experience in cities, built on these principles (Hadani & Vey, 2021). Developed by the Brookings Institute (2018), it seeks to conceptualise 'Playful Learning Landscapes', an initiative that combines the science of learning, placemaking and community cohesion, built on the premise that everyday public spaces can be transformed into engaging learning hubs.





The 'Designing Streets for Kids' Guide is a further initiative that highlights two key aspects in relation to designing child-friendly streets: firstly 'Improved and independent mobility' and secondly, 'Spaces to pause and stay' (Global Designing Cities Initiative, 2020). The Guide explores the importance of streets as spaces to pause and spend time, providing opportunities for outdoor play, inspiration, personal development, and interpersonal connections.







Alternative Play Habitats

Other studies have highlighted the value of alternative play habitats to stimulate learning. For example, Bustamante et al. (2020) drew on the life-size maths and science human board game "Parkopolis" to examine STEM (Science, Technology, Engineering and Maths) language and interaction in young children and their families. The research highlighted the additional benefits of Parkopolis' playful STEM learning for families, including greater STEM language, engagement, interaction and physical activities, when compared to the outcomes from a STEM-focused traditional exhibit in a children's museum. This playful aspect enhanced the benefits of engaging with STEM learning opportunities, in particular related to reasoning skills.

Parkopolis was part of a wider initiative entitled Playful Learning Landscapes (Brookings Institute, 2018), which sought to enhance play experiences that focused on learning outcomes, particularly for children and families from marginalised communities. Playful learning is a broad pedagogical approach that features child-directed play methods, integrated organically within the built environment (Hassinger-Das, 2018). Other initiatives have included playful learning activities at the Ultimate Block Party in Central Park (New York City), and the Urban Thinkscape project, which transformed a bus stop and a nearby car park into a hub for playful learning, aimed at families who were waiting for public transport.

The results suggest that embedding playful learning into architectural design is associated with increases in targeted types of caregiver interaction and enhanced child language use (Hassinger-Das et al., 2020).



Creating a Playful City

Adrian Voce, an advocate for children's right to play in the UK, is a leading authority on children in the city (Voce, 2018). Based on extensive research, he has proposed the following ten initiatives for creating a truly playful city, recommendations that are aimed at both national government and local authorities.

1. End the domination of traffic over the streets (i.e. roads) where most children live. Pedestrianised areas, home zones and play streets should be the norm for urban communities.
2. Prioritise the design element of public space and housing in new developments, to embed playful affordances within the built environment.
3. Break the mould of the public playground: children's space to play should not be defined by fences, safety surfaces and equipment but integrated throughout a liveable, intergenerational landscape.
4. Allow unplanned space to evolve according to communities' use of it. This will tend to give rise to the spatial 'fields of free action' (Kytta, 2004) that children will populate and animate with their play.
5. Build and staff more traditional adventure playgrounds, especially in the most deprived areas, where safe public space is rare.
6. Make parks work for everyone, including teenagers. Too many public parks are effectively no-go areas for a city's youth, who are designed out as a perceived threat to genteel society and manicured floral displays.
7. Make childcare services truly child-friendly (distinct from parent), by staffing them with qualified playworkers. Teaching assistants, however dedicated, naturally tend to apply the same behavioural regime that operates in the classroom – effectively consigning some children to 8 hours or more of school per day.
8. Welcome children into public space by encouraging and supporting 'playing out sessions', and reviewing how anti-social behaviour is defined.
9. Open up school grounds for neighbourhood play. Schools are by far the greatest recipient of public funding for children and yet - even leaving aside questions about education and curriculum – are massively under-utilised as community assets, being gated and out-of-bounds for all who do not attend, even when school is out.
10. Develop safe routes to schools, parks and play areas. Mobility is a key: the child friendly, playful city will have a web of safe, accessible and familiar routes to give children the connectivity that adults take for granted.



An in-practice example comes from Mikhail Riches' Stirling-winning – a British prize for excellence in architecture – Goldsmith Street in Norwich (Priest, 2019). As well as terraced housing with rear gardens, the housing estate also has one-bedroom apartments which all have their own rear gardens. The rear gardens allow access to further resident-only closed-off landscaped ginnels, a shared space behind rear gardens. The ginnels are wide enough for children to play in and surrounded by fencing that allows views through for parents. The space is used for games, such as basketball and hopscotch, and for community events like barbecues and get-togethers, creating opportunities for meeting neighbours in the same block of houses. The majority of the roads around the estate have been replaced by gardens full of flowers, plants and young trees. These circumstances create a low-traffic neighbourhood and enable fostering of the local community. Goldsmith Street is a core example of how spatial design can create opportunities for play, and the prize demonstrates its recognised value for the community, families and children.

Conclusion

It is evident that children and their parents or caregivers benefit from implemented play opportunities in cities. Providing children and families with these play spaces can enhance parent-child interaction, make the built environment more exciting both for children and adults, and help children learn new information. Play areas integrated into the built environment prove to be advantageous for children – both nationally and internationally – and this principle could be applied more extensively within the Oxfordshire area. The next section of this document will expand on the benefits of intergenerational play between older and younger generations.



A ginnel : A semi-private shared space behind rear gardens, Goldsmith Street, Norwich by Mikhail Riches Architects. Photographer: Tim Crocker
(Source: Mikhail Riches, 2022)



"1 Up" (Insert the ball) is a street game in Valparaíso, Chile



Chess available for everyone



Sandcastle city



Boardgame in the city



Memory card game on the side of a building

8. The Benefits of Intergenerational Play

Introduction

Play has been a key part of human experience throughout time and appears to be one of the few elements of life that are both universal and timeless. The number of researchers focusing on play has increased in recent years and it is clear that play is not only important in childhood, but also in adulthood and later life (Agate et al., 2018). Millington's (n.d.) article on 'play-dates' organised in a nursing home is a good example to demonstrate the overwhelmingly great experience of both parties: "*the children look forward to visiting Parklands Lodge.* (…) "*I feel young again*" and "*I feel like getting out of my wheelchair and start running around, playing with the children*".

Intergenerational play refers to those activities, social engagements and interactions that bring together younger and older generations for a common purpose and this section will highlight its importance for both children and older individuals.

Developmental Benefits and Prolonged Quality of Life

Although seemingly the promotion of intergenerational play might only appear as a bridge between the younger and elderly population, evidence suggests that it has even more important benefits. It positively influences children's language, reading and social skills, and reduces ageism (Drury, Abrams, & Swift, 2017; Age UK 2018; Tapper, 2019). This is achieved by providing opportunities for one-to-one reading and playtime sessions, and generations frequently spending time together enhances acceptance of the elderly. Moreover, the elderly experience decreased loneliness, delays in mental decline, lower blood pressure, and increased mobility and physical skill (Millington, n.d.).



Stronger Intergenerational Relationships

Since children instinctively know how to play and adults of all ages can still play too, generations playing together generates dialogue, challenging assumptions and building a sense of common purpose. As a result, children and adults discover a world beyond themselves and learn respect for each other's knowledge, values, and strengths (Generations Unites, 2008). Another organisation further suggests that generations playing together improves both younger and older playees social and communicational skills – key skills for the family (Make Time 2 Play, n.d.). These skills in a family environment are likely to foster the maintenance of grandparent-grandchild and parent-child relationships in positive ways.

Improved Physical and Mental Wellbeing

Old People's Home for Four-Year-Olds, a documentary aired in 2017, demonstrated that co-locating nurseries with nursing homes is highly beneficial for individuals' wellbeing. A nursing home resident who heavily relied on a zimmer frame to assist their movement, took part in a sports day race with their 4-year-old partner. The child's encouragement resulted in a highly unexpected scene: the elderly person ran to the finish line – fellow residents were amazed as they had never seen the resident run before. During this experiment, the children also forged close bonds with their elderly companions.

These results are further strengthened by Play Core (2021): "*People of all ages benefit from increased physical activity, access to vitamin D, fresh air, and the reduction of health risk factors associated with outdoor activity*. (...) *Being in an outdoor environment helps people relax, and can help to restore the mind from specific age-related stresses such as school, work, family pressures or loneliness. Green spaces may be particularly beneficial for older adults as they can provide safe opportunities to be active and interact with other people while stimulating the mind and senses. Additionally, access to shared public spaces can reduce overall stress, improve coping abilities, encourage multigenerational interaction, reduce social isolation, enhance relationship-building skills, and improve or maintain cognitive function*."



Blackmore (n.d.) and other research findings strongly support these statements.

Intergenerational play provides opportunities for social interaction, which reduces stress, loneliness, depression, anxiety and hopelessness, and promotes a higher quality of life (Golden et al., 2009; Eisenberg et al., 2007 as cited in Davis et al., 2011). The elderly also experience a sense of self-importance and a higher tendency to look forward to future events (Cherry Bridge Station, 2018).



Conclusion

Intergenerational play is a crucial means of exchanging values, knowledge, ideas and skills. It enables different generations to connect, allowing younger generations to benefit from the wisdom and experience of older people. In turn, these interactions reduce older people's feelings of isolation and increase opportunities to engage with communities and foster young people's development.



Local data illustrates the significance for Oxfordshire: almost half of the County's residents are aged 50 and over and this number is expected to grow (Oxfordshire Population Statistics, 2021). Therefore, based on the reviewed evidence, it appears to be more important than ever to establish intergenerational play activities, as these will be vital for the future of Oxfordshire's residents. In the final section, the inclusion of play in education and its benefits on children's learning are discussed in greater detail.





9. The Importance of Play in Education

Introduction

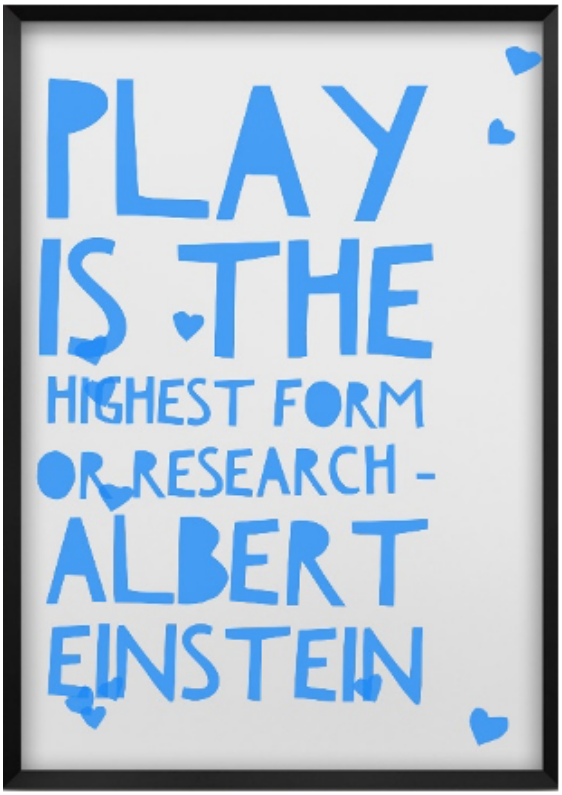
The United Nations Convention on the Rights of the Child (UNCRC) – a legally-binding international agreement setting out the civil, political, economic, social and cultural rights of every child, regardless of their race, religion or abilities – emphasises that "*Every child has the right to relax, play and take part in cultural and artistic activities.*" By enshrining it as a universal children's right, the UNCRC recognises the fundamental importance of play for children's development and wellbeing.

Play, and in particular unstructured play, has a foundational aspect for education. The manifold benefits of play for learning are increasingly being recognised, especially in early childhood education. Preschool children, and those in Reception, learn through the EYFS (Early Years Foundation Stage) National Curriculum, which is inherently play-based. Play has a key role in children's development in terms of language, emotional intelligence and regulation, creativity, and intellectual reasoning (Department for Education, 2021).

The current section highlights why play is important in education and will mainly focus on the benefits arising from unstructured play and why it is beneficial for children's development.

Unstructured Play

Unstructured or free play is defined as a free, spontaneous and unguided activity that is initiated by the child, which actively engages them for relatively long periods of time and has no extrinsic goals.



Creativity

Unstructured play stimulates creativity, the ability to imagine, express or create something novel that did not exist before.

Players define and change the rules of the game in order to create a meaningful challenge. They make their own decisions about shaping the play, turning it into an adventure, using the available objects and distributing roles among themselves. They interact with their environments by discovering, experimenting and exploring, being "lone scientists" (Piaget & Inhelder,1969).

Creative play develops a sense of autonomy and collaboration, both of which are essential for the development of the person (Sawyer, 2007). More importantly, play stimulates the capacity to engage into an activity that has no extrinsic goals, driving exploration of new pathways from an inner motivation (Amabile, 1996).



Communication and Social Development

U nstructured play environments help the development of social and communication skills.

Though sometimes seemingly chaotic, unstructured play can spontaneously take children to situations where they need to negotiate, take turns, create group rules, resolve conflicts and reflect on equality, justice and inclusion. During free play these skills are effectively reinforced without the intervention of adults. Children develop the ability to articulate their ideas, to explain to their friends how they are playing and what they are playing, they begin to see each other's perspectives and to converge towards a play scenario that is agreeable for everyone involved in the play activity.



Resilience and Self-Regulation

Unstructured play builds resilience and encourages self-regulation (Savina, 2013). When playing in unstructured environments children may experience confusion, frustration, uncertainty or failure. Navigating their way out of such uncomfortable situations, for instance by resolving differences of opinion, develops their confidence as competent, capable and resilient beings.

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Unstructured play builds resilience and encourages self-regulation, as accepting and following the game rules helps children understand that adhering to the rules is necessary for forming and keeping positive relations with their peers and others in society later in their lives (DeVries & Kohlberg, 1987). Unstructured play also encourages the ability to identify and manage risk, which leads to the development of self-regulation strategies.

Last but not least, unstructured play allows children to let off steam, to refresh themselves and eventually return to structured learning activities with a fresh mind.



Conclusion

In conclusion, it is evident that unstructured play is beneficial for children's development in a number of different areas. Promoting free play provides opportunities for children to engage in activities that are building their imagination, creativity, character and resilience, as well as their social and communication skills. Overall, unstructured play should be a vital part both of educational environments as well as of outside school environments.

10. Conclusions

Evidence from a wide range of academic and non-academic sources, ongoing research and current practice demonstrates that play is crucial for a child's physical and mental wellbeing and in ensuring wider public health across all age groups including the wellbeing of communities.

This report highlights the importance of play for promoting children's autonomy, creativity, resilience, emotional and physical wellbeing, and in tackling the growing epidemic of childhood obesity. Wider public health benefits follow when play is supported, with greater community cohesion and a reduction in adult loneliness, particularly where intergenerational play is facilitated. Outdoor play is correlated with increased cognition and positive mental health, as well as a greater awareness of sustainability issues. The integration of play spaces in public and residential settings through policy decisions allows these benefits to be seen in urban environments, too.

In demonstrating the importance of play for all children, this report draws attention to the importance of specifically supporting play in Oxfordshire. Despite the perception that Oxfordshire is an affluent county, there are distinct pockets of deprivation where children are not afforded equal opportunities to play.

Taking into consideration the evidence reviewed in this report, the short- and long-term benefits of play for children, and its wider, positive impacts on older generations' heath and wellbeing, as well as on community benefits, it is evident that Oxfordshire would benefit from investment in additional resources and infrastructure to support play.





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Contributors



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After 23 years spent working in the commercial sector in customer service and sales, Martin has been the Manager of the Oxfordshire Play Association since 2009. He is married and the father of 3 boys and so is well aware of the positive impact Play can have on the Physical and Mental Wellbeing of Children & Young People. He has been employed by OPA for 13 years now and loves working within the Charitable sector. He is particularly proud of the way OPA works in partnership with others right across Oxfordshire for the benefit of all.



Dr Juliet Carpenter

Juliet is a Research Fellow at the University of Oxford, in the Global Centre on Healthcare and Urbanisation (GCHU). She works at the interface of debates within urban planning, geography, political science and urban sociology. Her principal research interests include urban regeneration, community engagement in urban planning, the concept of co-creation, and broad notions of urban social sustainability.



Dr Andrei Constantin

Andrei is a Stephen Hawking Research Fellow in Theoretical Physics at the University of Oxford. His work focuses on developing mathematical models of particle physics and cosmology in string theory, starting from the idea that the observable properties of our universe may be a consequence of the geometrical properties of certain mathematical spaces that are inaccessible to direct observation. His outreach work includes school visits and public lectures and emphasises the perspective that mathematics is something that we are naturally inclined to do: even bees can count up to 4 and can make sense of the concept of 0.



Dr Mina Samangooei

Mina is an architect & Senior Lecturer in Architecture at Oxford Brookes University. Mina's research focuses on the role that nature integration & food production in & on buildings plays for urban futures. Her extensive range of experience includes residential, healthcare & ecclesiastical buildings. Mina is passionate about inspiring & working with people & communities to understand the need for future-proofing their projects. She has worked closely with co-housing & community led housing groups, thriving in her role as designer & design facilitator. Ecological & Passivhaus design & retrofit, using a holistic approach is one of her main strengths.



Dr Kate Wilmut

Kate is a reader and a co-director of the Centre for Psychological Research at Oxford Brookes University. Her research interests lie in motor skill learning and development with a specific focus on children and adults with Dyspraxia / Developmental Coordination Disorder (DCD). She is particularly passionate about ensuring that opportunities for motor skill learning, such as Physical Education and Cycle training for children are inclusive and welcoming for all.



Fruzsina Urban

Fruzsina is a recent graduate of Oxford Brookes University, where she now works as a Psychology Demonstrator. Her research interests lie in bilinguals' language learning and processing, developmental and environmental psychology. Her dissertation focused on Hungarian bilinguals' writing ability after immersion in an English context. She is particularly interested in learning about the impacts of available green spaces in cities and rural areas on children's language development, inhabitants' mental and physical wellbeing, and their attitudes towards sustainability and climate change.

Science Together Facilitators



Polly Kerr

Polly Kerr is Patient and Public Involvement Manager for the Nuffield Department of Primary Care at the University of Oxford. She cares deeply about ensuring research addresses the things that are important and relevant to all communities, and that it is carried out in an accessible, inclusive manner. She has a background in editorial work and science communication and is mother to a young son, so being able to bring all of these interests together to help facilitate this project has been a pleasure.



Saskia O'Sullivan

Saskia is the Educational Outreach Officer at the Department of Chemistry at the University of Oxford, and is responsible for the development and delivery of all the outreach programmes. A former youth worker and secondary school teacher, Saskia is committed to supporting learning in both formal and informal settings, and to building partnerships between colleagues and institutions that provide opportunities for young people to thrive. She was delighted to act as facilitator to the group.



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OXFORDSHIRE PLAY ASSOCIATION

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