



Play- it's in their DNA

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Introduction

There is growing evidence that children are 'hardwired' to play. Evolutionary biologists believe that the need for a child to play is embedded in their biology and their brain. That fundamental need to play is essential to the social, emotional, cognitive, and physical well-being of children. This report examines some of the evidence indicating that play is a biological necessity for healthy child development and that children have been compelled throughout evolution to learn the skills they need for adult life through childish play.

However, even as these benefits are being recognised by experts across many different disciplines, free playtime is declining for children - and has been for the past three decades¹. Play remains highly undervalued - the poor cousin or fun alternative to 'learning'. Play may be fun but it is also now formally considered a medical and developmental requirement for all children.

It's not just human evolution....

Evolutionary biologists believe that children are literally 'hardwired' to play; it is embedded in their biology and brain. And they're joined by a growing list of rather unlikely playmates much further down the evolutionary ladder who enjoy playing with toys and playthings. In one study of octopuses the researchers stated, 'We have observed octopus [playing] with balls by pulling them underwater and watching them pop back up again. This reactive feature is common in toys used for children and companion animals'². Play has been confirmed in other studies which documented the octopuses' 'possessive behaviour and playful interactions' with their toys.³

The most recent research, *Play Behavior in Crocodylians*, finds that they engage in all three main types of play distinguished by behaviour specialists: locomotor play, play with objects and social play (with other animals). In discussing one of the crocodiles, the observer reports '*the crocodile has been playing with that particular ball for years*'. They even appear to have their favourite colours '*observations suggest that crocodylians are generally attracted to small pink objects, and prefer them over similar objects of other colours*'. They also seem to enjoy going on piggyback rides⁴.

Epigenetics

An individual's genes can be activated or deactivated by the environment and external factors. The study of these reactions and how they influence the way cells read genes is called epigenetics.

Giving mice access to a running wheel, novel objects ('new toys') and social interaction is found to have powerful effects on genes in their brain's cortex along with significant improvements in their performance and cognitive function^{5&6}.

Indeed there is growing evidence that play may have life-long effects on children's genes which in turn influence their brain structure. The genes children inherit are not static or set in stone but are 'expressed' - activated or deactivated - by the child's experiences⁷. A 2010 Harvard University study stated;

'... early experiences can determine how genes are turned on and off and even whether some are expressed at all. Therefore, the experiences children have early in life—and the environments in which they have them—shape their developing brain architecture and strongly affect whether they grow up to be healthy, productive members of society. This growing scientific evidence supports the need for society to re-examine the way it thinks about the circumstances and experiences to which young children are exposed⁸.

... positive experiences, such as exposure to rich learning opportunities, or negative influences, such as environmental toxins or stressful life circumstances, leave a chemical "signature" on the genes.... supportive environments and rich learning experiences generate positive epigenetic signatures that

activate genetic potential... epigenetic changes that establish a foundation for more effective learning capacities in the future ... positive mastery experiences can lead to epigenetic changes that control the expression of genes in brain cells that are essential for successful learning.⁸

Looking at how this may play out in the home environment, neuroscientists studied children from birth to age 20 and found that a child's early home environment influences the architecture of the brain's outer layer years later in young adulthood. The Society of Neuroscience was told, 'The effect was independent of mothers' intelligence, as well as the degree of parental nurturance.' Interestingly, however, the effect was linked to whether the children had toys that taught them about colours, numbers or letters, or whether they played with real or toy musical instruments. The study also found that 'temporal lobe regions are related to verbal comprehension'⁹.

One of the researchers stated, 'These findings underscore the human brain's sensitivity to its early environment. They provide powerful evidence that even relatively minor variations within the normal range of home experience can affect brain development over a lifetime'⁹.

The Role of Play

The role of play in this process starts early. Three-month-old babies are being studied as they engage in 'early social games'. Scientists believe that 'infants' participation in play routines with their mother' set the foundations for crucial intellectual and emotional skills later on.¹⁰

The American Academy of Paediatrics has issued its *Clinical Report on The Importance of Play in Promoting Healthy Child Development*, in which they state: 'Play is important to healthy brain development... In contrast to passive entertainment, play builds active, healthy bodies. Play is essential to the social, emotional, cognitive, and physical well-being of children beginning in early childhood... it is important that paediatricians promote the inclusion of play in homes, schools, and communities.'^{11&12}

The Chief Medical Officer now prescribes play as a health requirement for all children, which 'may bring a range of physical and emotional benefits'. These benefits include 'social skills that help to build positive personal attributes such as self-esteem and self-confidence.'¹³

Even the Health and Safety Executive has issued a formal statement entitled '*Children's Play And Leisure: Recognising the benefits of play... The key message being: 'Play is great for children's well-being and development.'*¹⁴

Over 2000 years ago, Plato warned 'Do not keep...children to their studies by compulsion but by play.' Today many health professionals consider that play is the work of childhood. As a direct result of 'research on the benefits of play', Yale University held a major conference as 'An evidence-based call to action... to return play to the limelight, as well as to make recommendations for changes in policy'. Their main conclusion and title of the conference was '*Play = Learning*'.^{15&16}

Research published in the journal *Evolutionary Psychology* supports the conclusions of the American Academy of Paediatrics, the Chief Medical Officer, the Health and Safety Executive and Yale University group. Evaluating developmental and 'social success' in adults up to age 66, the study, '*Does Playing Pay?*' concludes that 'childish play supports evolutionary success... Results show that the opportunity for, and the promotion of, free play in childhood significantly predicts some indicators of social success... Results suggest that freely playing in childhood promotes developmental resources, in particular individual adaptivity in adulthood, which, in turn, promotes developmental success.'¹⁷

So why play?

Increasingly play is being considered as a potential aid in dealing with a number of issues from child

repeating, (as stated in the introduction) that even as these benefits are being recognised by experts across many different disciplines, free playtime is declining for children - and has been for the past three decades¹. Play remains highly undervalued - the poor cousin or fun alternative to 'learning'. However, although play may be fun, child's play is now formally considered a medical and developmental requirement for all children.

So what benefits can play bring?

Benefits of Play

'Necessity may be the mother of invention, but play is certainly the father.'

Roger von Oech

Child's play may look like leisure time, but when children are fighting imaginary dragons, playing house or a game of hopscotch, they're actually developing vital life skills. The benefits to their development include:

Intellectual development: creativity abstract thinking imagination problem-solving social cognition empathy perspective-taking mastering new concepts	Emotional development: self-confidence self-esteem anxiety reduction therapeutic effects	Social development: cooperation sharing turn-taking conflict resolution leadership skill development (control of impulses and aggressive behaviour)	Physical development: gross motor experiences fine motor experiences physical challenges self-help skills
Attentional development: attention regulation concentration persistence	Language development: communication skills	Academic/Educational	Intelligent risk-taking

(Yale, 2005¹⁶)

Emotional Development

Many biologists, psychologists and physicians consider play vital to mental health. The academic paper *The Decline of Play and the Rise of Psychopathology in Children and Adolescents* outlines a trend in the last half century in developed countries: 'children's free play with other children has declined sharply. Over the same period, anxiety, depression, suicide, feelings of helplessness, and narcissism have increased sharply in children, adolescents, and young adults.' The author 'contends that the decline in play has contributed to the rise in the psychopathology of young people ... play promotes mental health.'¹

Research indicates that play may actually *cause* children to be more emotionally well. In one study the scientists concluded: 'Children demonstrate increased emotional well-being when they perceive an activity as play rather than not play... play can be seen as an observable behaviour but also as a mental state.'¹⁸

Psychosocial Improvement

Social skills, sharing, cooperation, trust and empathy are developed through play. Part of this may be due to the role of the hormone oxytocin in social interaction during play¹⁹. For example, it's been reported that 'oxytocin increases willingness to socially share one's emotions'²⁰. Others report 'Oxytocin Improves "Mind-Reading" in Humans'²¹. New research in the journal *Cortex* has found

that empathy and cooperation increased when people were given oxytocin as they worked jointly on a 'Social Simon task'²². Childhood experiences influence both a child's current and future oxytocin release and the more one releases oxytocin, the easier it becomes to do so^{23&24}. Play, particularly social play, may establish and enhance this process early on in child development.

Intellectual Development

A classic study examining block play and later mathematic achievement found that the complexity of block play predicted children's mathematics performance in senior school. In particular, those who had used blocks in more sophisticated ways as 4 year olds had better maths grades and took more maths courses as teenagers. This finding between childhood block play and later maths performance remained even after researchers controlled for a child's IQ. It is therefore believed that the block play itself may have influenced the intellectual development of the children²⁵. More recent studies look at 11 year olds and find a 'relation between construction play [building blocks, stacking cups, etc] and mathematical word problem-solving performance'²⁶.

Playing with toys like blocks and puzzles has recently been reported to promote the development of strong spatial abilities. Strong spatial abilities predict better maths performance. Deciding whether a block goes under or over another block, or whether it is perpendicular or aligned to it, are exactly the kinds of skills that aid later learning in science, technology, engineering and maths. These spatial abilities help children learn maths and sciences. Children from a lower socio-economic background are already falling behind in areas of maths skills by 3 and 4 years of age. Researchers now believe that this achievement gap may be narrowed considerably by increasing children's experience in spatial assembly by playing with blocks and similar physical toys^{27&28}. In fact, careful selection of well thought through toys is useful throughout the years²⁹.

Indeed, using tools such as those in craft activities extends far beyond the skills, hand-eye and muscle coordination related to the craft. Such tool use - described as '*complex, real-world behavior*' - also involves and stimulates '*social, cognitive, perceptual and motor processes*'³⁰. The learning brain receives high levels of vital information through the sensations and movements of the hands. Elements of hand use such as movement velocity, direction and mode of coordination in craft activities are reflected in 'robust' brain activity. This may partly explain why most human beings find learning easiest when they begin a learning experience with a 'hands-on' kinesthetic activity.

Researchers are reconsidering the primal and central role of hands in learning and creation, and human evolution and survival. New thinking in evolutionary neurophysiology is suggesting that the emergence of human cognitive abilities may be the result of physical hand movements and tool use, enabling brain pathways to develop that helped language to develop, with some believing that language was originally gestural.

There are many parallels between tool use, hand movements and language for recognition, imitation and gestural communication, (learning and social behaviour) suggesting that they rely partially on large, common brain networks. Human speech and language could have evolved by co-opting neurophysiological mechanisms involved in the organisation of manipulative hand actions³⁰.

Executive functions

Executive functions (EFs) are the mental control processes that regulate thought and action in support of goal-directed behaviour. EFs develop dramatically during childhood and support a number of higher-level intellectual processes, including planning and decision-making, maintenance and manipulation of information in memory, the ability to inhibit unwanted thoughts, feelings, and actions (impulse control), and flexible shifting from one task to another. EFs are critical, early predictors of success across a range of important child outcomes, including school readiness in preschool children as well as academic performance at school entry and beyond. Furthermore, children with poorly developed EF go on to experience poorer health, financial circumstances, and

Harvard University's Centre on the Developing Child recently published formal guidance on *Enhancing and Practicing Executive Function Skills* in which they place a great deal of emphasis on the crucial role of 'creative play, games'³². In another report on 'building the brain's' executive functions, Harvard University stresses 'the early environments in which children live leave a lasting signature on those genes. This signature influences how or whether that genetic potential is expressed in the brain circuits that underlie the executive function capacities children will rely on throughout their lives.'³³

New research is focusing upon one aspect of children's EFs: the development of *self-directed* executive functioning, where children themselves must determine what goal-directed actions to carry out and when. Many believe that changes in child time use over the past 50 years have influenced this aspect of child development. One recent study concluded that 'hours formerly devoted to less-structured, social play have been replaced by media time and structured, adult-led activities.'³¹

Researchers found that 'during children's time outside of formal schooling, participation in less structured activities may benefit the development of self-directed EFs'. Less-structured activities included 'Free play alone, free play with others, unguided, child-initiated practice'.³¹

Physical Development

The need to move has a long history. Five hundred million years ago the nervous system first enabled coordinated movement allowing an organism to find food, instead of waiting for the food to come to it. However, new research shows that we can't shake off our physical past if we want our children to have an intellectual future. Movement is inextricably linked to brain development that goes far beyond mere hand-eye coordination. Our evolution and pre-eminence as a species were the result of it. Children are still subject to a movement imperative.

As well as the countless benefits that physical activity contributes to a healthy body, there is mounting evidence that physical activity, including physically active play, benefits mental health and academic performance.

Longitudinal research on girls published in the *Journal of Adolescent Health* concluded, 'participating in physical activity can lead to positive self-esteem among adolescent girls, particularly for younger girls... These findings highlight the necessity of promoting physical activity among adolescent girls as a method of fostering positive self-worth.'³⁴

Scientists publishing in the journal *Frontiers in Human Neuroscience* reported that 'aerobic fitness plays an important role in the brain health of children, especially in terms of brain structure and brain function, including grey matter volumes [size], basal ganglia and functional brain networks ... These fitness-related differences in brain health are often coupled with performance differences, such that fitter children have been shown to outperform their less fit peers on tasks of cognitive control and memory as well as scholastic achievement tests in the classroom'.³⁵

A previous study published in *Brain Research* found an association between physical fitness and the brain in 9- and 10-year-old children: Those children who were more physically fit tended to have a bigger hippocampus - about 12 per cent bigger relative to total brain size - and performed better on a test of memory than their less-fit peers. The hippocampus is important in learning and memory and a bigger hippocampus is associated with better performance on spatial reasoning and other intellectual tasks.³⁶

A systematic review of physical activity and school performance concluded that 'Participation in physical activity is positively related to academic performance in children.' One of the mechanisms

underlying these observations is thought to be physical activity producing 'increased growth factors that help to create new nerve cells and support synaptic [brain cell] plasticity'.³⁷

Research published in the medical journal *Pediatrics* on the effects of out of school physical activity on 7 – 9 year olds found that it 'enhanced cognitive performance and brain function during tasks requiring greater executive control... These findings demonstrate a causal effect of a physical activity program on executive control, and provide support for physical activity for improving childhood cognition and brain health... Specifically, policies that reduce or replace physical activity opportunities during the school day (e.g. recess), in an attempt to increase academic achievement, may have unintended effects. Indeed, the current data... warrant modification of contemporary educational policies and practices, and indicate that youth should receive more daily physical activity opportunities.'³⁸

At the same time however, *The Physical Activity Statistics 2015* compiled by the University of Oxford reported that only 'around one in ten boys and girls aged 2 to 4 years met the recommended levels of activity... the proportion of children aged 5 to 15 years meeting recommendations fell'.³⁹

Parents should not assume that children are getting their recommended activity levels at school. A 2012 report found that children were more active during play sessions than at any other time in their school day – including PE lessons. PE lessons do get children moving but it is a more formal process involving trying to acquire skills, trying to observe, attentive listening and reacting. This is not the same as active free playtime. Policy makers might consider the role of play sessions in the curriculum to encourage higher and more sustained levels of active play and parents can encourage more activity by encouraging active play at home⁴⁰.

In encouraging children to be more physically active it is important to remember that; 'Children demonstrate increased emotional well-being when they perceive an activity as play rather than not play.'¹⁸

Types of Play

Structured/less-structured/unstructured play

Children benefit from guided play with input from adults but also less-structured and unstructured play driven by the child/children. Children need adults in their lives; people who will role model the importance of play to living⁴¹. Age is a significant factor – as children age they can play more independently.

Green play

There is evidence that 'green activity' – such as playing, walking or cycling in a natural environment – boosts well-being more than physical activity alone. A study by the School of Biological Sciences at the University of Essex found that 'every green environment improved both self-esteem and mood; the presence of water generated greater effects'. Most interesting was the finding that '*for self-esteem, the greatest change was in the youngest*'. Small doses of outdoor physical activity for as little as five minutes at a time may significantly improve mental health.⁴²

Children need to be outside more, especially where there's greenery, for at the *very least* 20 minutes per day - ideally for several hours during good weather/daylight. Where possible, try to incorporate playtime with green time. There is also the issue of children getting enough sunlight in order to produce sufficient levels of vitamin D. The Chief Medical Officer is very concerned at the increasing number of children with vitamin D deficiency, a prime cause of rickets, which has re-emerged due to children's lack of exposure to the sun.⁴³

Playing in a green environment may also improve children's attention. One study concluded

than children who play in built outdoor and indoor settings. This is true for all income groups and for both boys and girls.’⁴⁴

It is also believed that a green environment may improve attention in those without ADHD. For example, a year-long study of 2,593 schoolchildren in 36 primary schools recently reported ‘a beneficial association between exposure to green space and cognitive development among schoolchildren... enhanced 12-month progress in working memory, superior working memory and a greater 12-month reduction in inattentiveness associated with greenness’.⁴⁵

The intriguing paper ‘*Can Nature Make Us More Caring?*’ raises the question of whether exposure to more nature can make children into nicer people. The research found that young people ‘immersed in natural environments’ expressed greater generosity and concern for others than those immersed in ‘non-natural environments’.⁴⁶

Risky Outdoor Play

Mixing more green play with risk taking play is now being strongly recommended by health professionals. A large multidisciplinary research team published their review stating ‘evidence suggests overall positive effects of risky outdoor play on a variety of health indicators and behaviours in children aged 3-12 years. Specifically, play where children can disappear/get lost and risky play in supportive environments were positively associated with physical activity and social health’. The team then published a detailed ‘Position Statement: ... active play in nature and outdoors—with its risks— is essential for healthy child development. We recommend increasing children’s opportunities for self-directed play outdoors in all settings—at home, at school, in child care, the community and nature.’^{47&48}

Rough and Tumble

A major review just published concluded that ‘Engaging in rough and tumble play did not increase aggression, and was associated with increased social competence for boys’⁴⁷. Michael Thompson, a psychologist interested in protecting the emotional life of boys, believes ‘Play, rougher in its themes and rougher physically, is a feature of boyhood in every society on Earth’⁴⁹.

Boys appear to be ‘hard-wired’ for more active and aggressive pursuits than girls.

Four-year-old boys play superhero or enact mock fights much more frequently than girls^{50&51}. Some research has found, however, a marked difference in how teachers respond to these games with nearly half reporting that they stopped or redirected boys’ play several times a week or every day, far more than they did with girls⁵¹.

Boys’ play at times may to some seem less politically correct. This can lead carers to redirect activities inadvertently causing boys to miss out on the rough and tumble they crave and need. Moreover, rough and tumble teaches children the ‘value of pain’ i.e. certain actions may lead to you being hurt, or intentionally hurting another child may lead them to cause you pain. This kind of play helps children in response regulation, realising the cause and effect of their actions, as well as improving socialisation and teaching children about boundaries.

Obstacles to play – ‘real’ verses ‘virtual’ play

The arrival of small screens has caused a rise in recreational, sedentary screen time and has been accompanied by a continuing drop in active play⁵². It may also have blurred the lines between parental perception of children’s playtime; a child may have been engaged in a game activity on a device, ‘virtual play’, but this is not a substitute for ‘real world’ play as ‘unstructured play time is more valuable for the developing brain than electronic media’⁵³.

Medical authorities around the world are becoming increasingly concerned that such a large

reading books on a tablet which is *not* of concern⁵⁴.

The NHS is issuing an increasing number of advisory statements on reducing DST. For example, 'all children under 5 years old... should not be inactive for long periods, except when they're asleep... [as it is] not good for a child's health and development. There is growing evidence that such behaviour can increase their risk of poor health'^{55&56}. '*Placing limits on the use of any type of screen equipment in the hours before bedtime can improve the quality of their sleep. This could then help them improve their energy and activity levels during the day*'^{57&58}.

Increasingly, experts and government departments around the world are looking at, or introducing, mechanisms to allow maximum screen times to be set by parents⁵⁹ or issuing advisory screen times to 'limit use of electronic media for entertainment'^{60&61} as part of key 'health improvement priorities'⁶². The U.S. Department of Health (2013) 'recommended limits for screen time' are that children over 2 years old should '*view television, videos, or play video games... use a computer or play computer games outside of school (for non-school work) for no more than 2 hours a day*'⁶².

It isn't only the amount of time children spend intentionally watching their screens that is an issue. Background media that is *not* being actively viewed by the child – i.e. 'passive viewing' – is increasingly associated with reduced play behaviour and parent-child interplay thereby posing developmental risks⁶³. A number of studies have found background TV to have a disruptive affect on play; reducing toy play episode length⁶⁴, affecting attention during play⁶⁴, reducing the quantity and quality of parent-child interaction⁶⁵ and reducing the number of words and utterances spoken per minute by the parent⁶⁶.

The conclusions of these studies is that background television disrupts very young children's play behaviour which could dilute the positive benefits of play which may have implications for subsequent development.

Parents must now actively consider their children's discretionary screen time, which must have limits⁵⁹. Encouraging behaviours such as no screens in children's bedrooms and parental monitoring of total screen time can contribute to good habits⁵⁹. Helping children to cultivate the self-discipline and screen habits that will enable them to keep their consumption at an acceptable level throughout their lives will clear the way for child's play to happen for more hours per day.

Parents need not be worried about their children not being entertained all the time. The time that has not been scheduled is now referred to by some psychologists as 'undesigned moments'. It is precisely those undesigned moments, or better yet long periods of self-directed exploration, that may ultimately foster the capacity to self-entertain through their own efforts and to cultivate self-generated creativity and imagination.^{67&68}

A little play every day

Children need a daily combination of light and more energetic physical activity. Toddlers/children who can walk on their own should be physically active every day for at least 180 minutes (3 hours). This should be spread throughout the day. The 180 minutes can include light activity such as standing up, moving around, rolling and playing, as well as more energetic activity like skipping, hopping, running and jumping. Active play, such as using a climbing frame, riding a bike, playing in water, chasing games and ball games, is the best way for this age group to be physically active.⁵⁶

The NHS recommends, children and young people aged 5-18 need to do at the *very least*, 1 hour of moderate to vigorous physical activity every day and preferably much more.⁵⁷

Apart from the physical activity recommendations parents should *not* be preoccupied with how

because often some play activities involve several different categories, and bring different benefits, within one play experience. Play has many different forms, may serve different purposes and has different defining characteristics⁶⁹. Below is a menu listing some of the basic à la carte components that make up the range of regular play experiences children need. The list is neither exhaustive nor prescriptive and is not intended as a scientific formula for planned spontaneity, it is rather a *reference point* - general categories of play that make up a well-balanced 'play diet'.

This should be used as a guide to help answer the general question: is my child getting a balanced play diet?
Large muscle-group play: Children love to climb, run, slide, swing, jump, and engage in every type of movement possible. Such play develops coordination, balance, and a sense of one's body in the space around it.
Fine muscle play: Play with small toys and activities like stringing beads, playing with puzzles, and sorting objects into types develops dexterity.
Rough-and-tumble play: This fundamental form of play is found in animals as well as human children. Animals know how to play roughly without injury by rounding their body gestures and not aiming for dominance. Children can be helped to do the same if their play becomes too aggressive.
Competency play: Children often repeat an action in play and persevere until they master it, such as making dozens of 'birthday packages' to learn to tie bows, or playing on a balance beam to become a 'circus performer'.
Rules-based play: Preschool and school children enjoy the challenge of making up their own rules and the social negotiation involved in adapting the rules for each play situation.
Construction play: Building houses, ships, forts, and other structures is a basic form of play that requires skill and imagination.
Imaginary play: This broad category incorporates many other play types and is rich with language, problem-solving, and imagination. It frequently begins with 'Let's pretend' and goes on to include anything children might have experienced or imagined.
Symbolic play: Children take an object at hand and convert it into the toy or prop they need through a fluid process of fantasy or imagination.
Language play: Children develop mastery by playing with words, rhymes, verses, and songs they make up or change. They tell stories and dramatise them. They are fascinated by foreign languages, especially when they are presented playfully in story, verse, or song.
Artistic play: Children integrate all forms of art into their play, using whatever materials are at hand to draw, model, create music, perform puppet shows, and so on. They explore the arts and use them to express their feelings and ideas.
Multi-sensory play: Most children enjoy playing with dirt, sand, mud, water, and other materials with different textures, sounds, and smells. Such play develops the senses.
Risk-taking play: Children extend their abilities through risky play and learn to master challenging environments. They generally know how far they can go without actually hurting themselves.

(Based on Miller & Almon 2009⁷⁰)

Conclusions and recommendations

It is clear from the evidence that an adequate degree and variety of play is imperative for child well-being and development. That evidence clearly points to the urgent need to elevate play from its current status as an afterthought - the postscript to a child's day - to that of a necessity.

Parents must be made fully aware of the vital role of play and how they can ensure their child benefits from it. Play is the ambient part of a child's education and is neither 'unaffordable nor inaccessible'¹⁵. It is as key as formal education and should be treated as such by society.

Parents and local neighbourhoods can reclaim playtime and play areas through informal parental arrangements to supervise play in the neighbourhood. Local councils may grant certain play times on certain roads whereby traffic is banned during specified times on certain days of the year.

Novel approaches to increasing children's playtime should be considered. For example, a study of 23,000 children from 9 countries offers compelling evidence that more evening daylight can help keep children active for longer. Moving the clocks forward by one hour would afford British children 200 extra waking daylight hours per year. The study concluded that 'evening daylight plays a causal role in increasing physical activity in the late afternoon and early evening – a period which has been described as the 'critical hours' for children's physical activity.' This effect appeared to apply to girls and boys and to overweight and normal-weight children, as well as children from different socio-economic backgrounds⁷¹.

A large number of scientists are calling on policymakers to consider child's play in a very serious light, 'to facilitate a recalibration of attitudes, practices, policies, and ultimately normative behaviours to promote healthy child growth and development'⁴⁸. In practice this requires greater liaison between the departments of health, education, culture, media and sport along with more aggressive 'play policies'. Given the large proportion of a child's life taking place in preschool and school, policies and practices that reduce or replace opportunities for play and physical activity during the school day (e.g. break time), in an attempt to increase academic achievement, may have unintended consequences. Children should have *more* daily opportunities for play and physical activity³⁸.

Children's play deserves better than lip service. And so we must clear the time and create the opportunity for children to make time to play.

A message from the publisher on the Make Time 2 Play campaign

The Make Time to Play campaign has been running since 2010 and has free resources for parents to fill their children's playtime. The Make Time 2 Play website, Facebook page and app give hundreds of free play ideas. The app highlights the multiple benefits of each play activity so that parents can learn about the types of benefits different play experiences bring.

In addition, the campaign aims to highlight the importance of play to policy makers. Play needs to be recognised as being as critical for the development of healthy British children as formal education.

In 2015 Make Time 2 Play launched five basic play principles to express the value of play across the policy landscape and to ask for government to consider these principles in their political decisions during this term of office:

1. Every child needs space and time to play
2. Active play can contribute to children's health
3. Play-based learning adds educational opportunities at all ages
4. Safe places to play are good for families and good for communities
5. Children develop important life skills through play

Make Time 2 Play is run by the British Toy and Hobby Association.

More about the Author

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